

# **GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT**



## **2010 URBAN WATER MANAGEMENT PLAN**

**Final**

**July 22, 2011**

**GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT  
6425 Main Street  
P.O. Box 4240  
Georgetown, California 95634**

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6425 Main Street  
P.O. Box 4240  
Georgetown, California 95634

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Georgetown Divide Public Utility District is a water retailer.

Georgetown Divide Public Utility District is not a Bureau of Reclamation Contractor.

Georgetown Divide Public Utility District is not a State Water Project Contractor.

Georgetown Divide Public Utility District provides the following utility services:

- Raw Irrigation Water
- Treated Potable Water
- Management of Onsite Wastewater Management Zone

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# TABLE OF CONTENTS

<b>1.0 INTRODUCTION.....</b>	<b>1</b>
1.1. List of Abbreviations.....	1
<b>2.0 PLAN PREPARATION .....</b>	<b>2</b>
2.1. Interagency Coordination .....	2
2.2. Public Participation .....	2
2.3. Plan Implementation & Distribution .....	2
2.4. Plan Checklist.....	3
<b>3.0 SYSTEM DESCRIPTION .....</b>	<b>4</b>
3.1. Historical Background .....	4
3.2. Service Area .....	6
3.3. Climate .....	9
3.3.1. Historical Precipitation Data.....	9
3.3.2. Runoff Characteristics.....	10
3.4. Demography .....	10
3.5. Population.....	11
3.5.1. Population Projections .....	11
3.6. Other Demographic Factors .....	11
<b>4.0 SYSTEM DEMANDS .....</b>	<b>12</b>
4.1. Base Water Production .....	12
4.2. GPCD Targets.....	13
4.3. Water Use Reduction Plan .....	14
4.4. Historical and Projected Water Use by Customer Type.....	14
4.4.1. Past Water Use .....	15
4.4.2. Current Water Use .....	15
4.4.3. Projected Water Use .....	16
4.5. Wholesaler Water Demand Projections .....	18
4.6. Low Income Housing Demand .....	18
<b>5.0 SYSTEM SUPPLIES.....</b>	<b>19</b>
5.1. Source of Supply – Stumpy Meadows Surface Water Diversion .....	19
5.1.1. Description of Watershed.....	19
5.1.2. Yield Analysis .....	20
5.1.3. Description of Domestic Water System .....	21
5.2. Existing and Planned Water Sources .....	21
5.2.1. Potential Groundwater Sources.....	22
5.2.2. Water Exchange or Transfer Opportunities .....	22
5.2.3. Desalinated Water Project Opportunities.....	22
5.2.4. Recycled Water Opportunities .....	23
5.3. Future Water Projects .....	24
5.3.1. Potential Water Supply Projects .....	24

<b>6.0</b>	<b>WATER SHORTAGE RELIABILITY .....</b>	<b>26</b>
<b>6.1.</b>	<b>Water Supply Management.....</b>	<b>26</b>
<b>6.2.</b>	<b>Water Supply Reliability.....</b>	<b>26</b>
6.2.1.	Comparison of Supply and Demand .....	27
6.2.2.	Resource Maximization.....	28
<b>6.3.</b>	<b>Water Shortage Contingency Plans .....</b>	<b>28</b>
6.3.1.	Water Supply Emergency Response Plan.....	28
6.3.2.	Staged Response Plan .....	29
6.3.3.	Mandatory Provisions to Reduce Water Use .....	31
6.3.4.	Penalties or Charges for Excessive Use .....	31
6.3.5.	Impacts on Revenue and Expenditures .....	32
6.3.6.	Mechanism for Monitoring Water Use .....	32
<b>6.4.</b>	<b>Water Quality Impacts on Reliability .....</b>	<b>32</b>
<b>7.0</b>	<b>DEMAND MANAGEMENT MEASURES .....</b>	<b>33</b>
<b>7.1.</b>	<b>Introduction .....</b>	<b>33</b>
<b>7.2.</b>	<b>Value of Water .....</b>	<b>33</b>
<b>7.3.</b>	<b>DMM Implementation Status.....</b>	<b>34</b>
7.3.1.	DMM A – Residential Water Survey Program .....	34
7.3.2.	DMM B – Residential Plumbing Retrofit .....	36
7.3.3.	DMM C – System Water Audits, Leak Detection and Repair .....	36
7.3.4.	DMM D – Metering with Commodity Rates.....	38
7.3.5.	DMM E – Large Landscape Conservation Programs and Incentives.....	39
7.3.6.	DMM F – High-Efficiency Washing Machine Rebate.....	40
7.3.7.	DMM G – Public Information Program .....	41
7.3.8.	DMM H – School Education Program.....	42
7.3.9.	DMM I – Commercial, Industrial, and Institutional (CII) Conservation Programs .....	42
7.3.10.	DMM J – Wholesale Agency Programs .....	44
7.3.11.	DMM K – Conservation Pricing.....	44
7.3.12.	DMM L – Conservation Coordinator .....	45
7.3.13.	DMM M – Water Waste Prohibition.....	45
7.3.14.	DMM N – Residential Ultra-Low-Flush Toilets Replacement Programs.....	46

## **APPENDICIES**

Appendix A - Notice of Intent to Adopt UWMP to Coordinating Agencies  
Appendix B - Notice of Public Hearing  
Appendix C - Resolution to Adopt the Urban Water Management Plan  
Appendix D - Completed DWR UWMP Checklist  
Appendix E - District Ordinance 2005-01  
Appendix F - 2010 Consumer Confidence Report  
Appendix G - Examples of Public Education Documentation  
Appendix H - District Ordinance 82-1



## INDEX OF FIGURES

Figure 1 - District Location within El Dorado County .....	7
Figure 2 - District Service Area .....	8
Figure 3 - Water Supply Options .....	25

## INDEX OF TABLES

Table 1 - List of Abbreviations.....	1
Table 2 - Agency Coordination.....	2
Table 3 - Monthly Climate Summary .....	10
Table 4 - District's Number of People per Household.....	11
Table 5 - Population, Current and Projected Through 2030.....	11
Table 6 - Base Daily per Capita Water Use, 5 Year Range .....	12
Table 7 - Base Daily per Capita Water Use, 10 Year Range .....	13
Table 8 - Base Period Ranges .....	13
Table 9 - Past Water Deliveries, 2005.....	15
Table 10 - Current Water Deliveries, 2010 .....	15
Table 11 - Projected Water Deliveries, 2015 .....	16
Table 12 - Projected Water Deliveries, 2020 .....	17
Table 13 - Projected Water Deliveries, 2025 and 2030 .....	17
Table 14 - Projected Low Income Housing Water Demand .....	18
Table 15 - Current and Projected Sources of Water.....	21
Table 16 - Summary of Options to Increase Water Supply .....	25
Table 17 - Supply Reliability During Worst-Case Three Year Dry Period.....	27
Table 18 - Water Supply and Demand Comparison, Normal Year.....	27
Table 19 - Water Supply and Demand Comparison, Single Dry Year.....	27
Table 20 - Water Supply and Demand Comparison, Multiple Dry Years .....	28
Table 21 - Water Shortage Program Staged Response .....	30
Table 22 - Domestic Water Conservation Methods .....	31
Table 23 - Water Supply Staged Response Trigger Levels .....	31
Table 24 - District's DMM Implementation Status.....	33
Table 25 - Cost of Treated Water, 2007 .....	34
Table 26 - Cost Benefit Analysis for Residential Water Survey Program.....	35
Table 27 - Cost Benefit Analysis for High Efficiency Washing Machine Program .....	40
Table 28 - Cost Benefit Analysis for CII Water Conservation Program .....	44
Table 29 - Cost Benefit Analysis for Ultra Low Flush Toilet Replacement Program.....	47

## 1.0 Introduction

This report has been prepared in compliance with the Urban Water Management Planning Act (Act), as amended (California Water Code, Division 6, Part 2.6; §10610, et. seq. established by Assembly Bill 797, 1983). All urban water suppliers as defined in Section 10617, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet annually are required to prepare an Urban Water Management Plan (UWMP). Urban water suppliers are required to prepare and/or update their UWMP and submit a complete plan to Department of Water Resources every five years. In January 2009, the Act was amended by Assembly Bill AB-1420, which required the implementation of demand management measures to be eligible for water grants or loans. The Act was most recently amended in November 2009 with the adoption of Senate Bill SBx7-7. The most significant revision in this amendment is the requirement for establishing per capita water use targets for 2015 and 2020.

This Plan will be presented to the Georgetown Divide Public Utility District's Board of Directors for review and adoption. It will be filed with the Water Efficiency Office in the Department of Water Resources, as required by law, and will be used by the Georgetown Divide Public Utility District (District) staff to guide the District's water conservation efforts through the year 2015. As required by §10621 (a) of the Water Code, the District will update the Plan again by December 2015.

### 1.1. List of Abbreviations

Table 1 presents a list of the abbreviations used in this Urban Water Management Plan.

**Table 1 - List of Abbreviations**

AF	acre-feet
CFS	cubic feet per second
CUWCC	California Urban Water Conservation Council
District	Georgetown Divide Public Utility District
DMM	Demand Management Measure
DWR	California Department of Water Resources
EDCWA	El Dorado County Water Agency
GDPUD	Georgetown Divide Public Utility District
gpcd	gallons per capita per day
mgd	million gallons per day
SMUD	Sacramento Metropolitan Utility District
UWMP	Urban Water Management Plan

## 2.0 Plan Preparation

### 2.1. Interagency Coordination

The District is a member of EDCWA, the El Dorado County Water Agency. The EDCWA is long-term water planning organization established by the El Dorado County Water Agency Act (California Water Code Appendix Section 96-1, et seq.). EDCWA's Board of Directors is composed of representatives from both the El Dorado County Board of Supervisors and public water purveyors within the County. EDCWA has the power to take actions necessary to ensure sufficient water may be available for present and future beneficial uses within the agency boundaries, including the power to carry on technical and other necessary investigations pertaining to water supply, water rights and use of water within the agency.

All land use planning and development approvals within the District's boundaries are the responsibility of the El Dorado County. **The District's service area does not include any incorporated cities.**

The District issued a 60-day notice to both El Dorado County and the EDCWA stating that the District was preparing its 2010 Urban Water Management Plan (UWMP) and intends to present its findings at a public hearing in July 2011 for adoption (see Appendix A). The coordination with these agencies is summarized in Table 2.

**Table 2 - Agency Coordination**

Coordinating Agencies	Was Sent a Notice of Intention to Adopt	Was Sent a Copy of the Draft Plan	Commented on Draft Plan
El Dorado County	Yes	Yes	No
El Dorado County Water Agency	Yes	Yes	Yes

### 2.2. Public Participation

The Georgetown Divide Public Utility District provided opportunities for community participation in its urban water management planning efforts during plan preparation. A Notice of Public Hearing was published twice in the Georgetown Gazette and copies of the draft UWMP were made available for public inspection at the District's office and on the District's website. A copy of the Notice of Public Hearing is provided in Appendix B.

A public hearing was held on this UWMP by the Board of Directors prior to its adoption on July 12, 2011. The resolution of the District's Board of Directors to adopt the UWMP is presented in Appendix C.

### 2.3. Plan Implementation & Distribution

The District will implement this 2010 UWMP to meet the SBx7-7 gallons per capita per day (gpcd) targets. The District will continue implementation of their existing water conservation programs. The District implemented their 2005 UWMP in accordance with the requirements included in the plan.

The District will provide the adopted UWMP to El Dorado County within 60 days of its submission to DWR.

The District will also provide the adopted UWMP to the California State Library within 30 days of its adoption.

The adopted UWMP will be made available for public review within 30 days of its submission to DWR on the District's website.

#### **2.4. Plan Checklist**

The 2010 UWMP is organized by subject matter per DWR's Urban Water Management Plan checklist (Table I-2). Appendix D presents the completed checklist for the District's 2010 UWMP.

## **3.0 System Description**

### **3.1. Historical Background**

The discovery of gold near the present site of Coloma by James W. Marshall in 1848 resulted in an influx of settlers to the Georgetown area. The general region now occupied by El Dorado County rapidly became one of the most populous areas of the State. The town of Georgetown was founded on August 7, 1849 by George Phillips and soon had the nickname “Growlersburg” from the large nuggets that “growled” in the miners pans. Millions of dollars worth of gold were taken from the area during the early years of the Gold Rush, and it was during this period that the original water system for the Georgetown Divide area was developed.

The initial diversions and ditches were constructed by three companies beginning in 1852. One of the companies, the Pilot Creek Ditch Company, later absorbed the other two, and expanded the system to supply water to nearly the entire area presently supplied by the District. In 1872, a group of San Francisco investors formed the California Water Company and purchased the Pilot Creek Ditch Company. The California Water Company subsequently constructed Loon Lake Dam, made considerable improvements to the distribution system, and established the first policy for furnishing water for agricultural purposes.

The name of this company was changed to the Loon Lake Water and Power Company in 1890, and shortly thereafter it was purchased by the Truckee General Electric Company. This company, in turn, changes its name to the Sierra Pacific Power Company in 1915. In 1931, the Georgetown Water Company, Ltd., was formed and purchased the water system serving the Georgetown area from Sierra Pacific.

In accordance with Ordinance Number 137 of the El Dorado County Board of Supervisors, formation of the Georgetown Divide Public Utility District was submitted to and approved by the electorate of the proposed District on June 4, 1946. The statutory authority enabling the District to construct, finance, maintain, and operate a water system is found in Section 16461 of the Public Utilities Code of California. By 1952, the District had purchased all of the facilities of the Georgetown Water Company. In 1961, these facilities were officially conveyed by deed to the District. The District sold all of its facilities and water rights in the Upper Rubicon Basin to the Sacramento Municipal Utility District (SMUD) in 1957. The proceeds of the sale were to be used by the GDPUD to develop an improved and enlarged source of supply on Pilot Creek. This development became known as the Stumpy Meadows Project and was financed by a loan under Public Law 984, with most of the loan to be repaid using the SMUD payments.

The Georgetown Water Company (Company), the immediate predecessor to the District, as well as its antecedents, held certain rights to the South Fork Rubicon River and Pilot Creek. Pilot Creek is a tributary of the Rubicon River which is in turn a tributary to the Middle Fork American River. Water use from these sources had been established as early as 1852, and the owners of the Georgetown Water Company claimed pre-1914 rights by acquisition and use to waters of those streams and several other minor watersheds. In addition, the Company claimed and held title to facilities and properties related to providing water to the Georgetown Divide, including a storage reservoir at Loon Lake (completed about 1883), and a conveyance system to bring

water from Loon Lake, re-diverting it from the South Fork Rubicon River into the Pilot Creek drainage, and re-diverting it at Stumpy Meadows (a meadow at that time, not a reservoir) to the Georgetown Divide Ditch. The water was primarily used for mining and agriculture along the Georgetown Divide although some was also used for domestic purposes.

After formation of the District in 1946, Application 12421 was filed in 1948. The District requested diversion and storage rights pertinent to the Loon Lake project, which was originally the Company's and then the District's major source of water. In addition, a diversion right of 50 cubic feet per second (CFS) and storage rights for 20,000 acre-feet per year were requested in the Pilot Creek watershed, as well as a number of storage sites in the service area. The District was then in the process of acquiring the Georgetown Water Company rights, facilities, and properties including Loon Lake Reservoir and ditches, to supply the Georgetown Divide service area. The facilities were finally acquired by the District in 1959. Application 12421 had been filed to formalize the rights that the District would eventually acquire from the Georgetown Water Company, and to provide for and protect a future potential water supply for the Georgetown Divide.

In the early 1950's, Sacramento Municipal Utility District (SMUD) expressed a desire to acquire rights and facilities of the District in the Upper Rubicon Basin, including Loon Lake and the potential future water supply from the Rubicon River, for construction of the Upper American River Hydroelectric Project. In turn, SMUD offered to provide financial assistance for planning and construction and to assist in acquiring the necessary water rights for an alternate District water supply in the Pilot Creek Basin, including the 20,000 acre-foot reservoir proposed by the District, as well as a diversion of 50 CFS from Pilot Creek. In return, the District was to withdraw its applications for rights in the Upper Rubicon watersheds under A12421 in favor of SMUD, but the District was to keep that portion of the application related to the reservoir and diversions on Pilot Creek.

During the period of negotiation, the District filed Application 16212 (1955, 1956) requesting additional necessary diversion rights for the alternative replacement water supply. The concepts regarding the various features of the replacement water supply had already been established, but only preliminary design studies and plans had been completed at that time. The project as originally proposed, envisioned the storage reservoir at Stumpy Meadows and direct diversion from Pilot Creek at the dam as described in A12421. In a later project revision, water was to be released from Stumpy Meadows Reservoir for re-diversion from Pilot Creek. The old Georgetown Divide ditch between Stumpy Meadows and Tunnel Hill was to be abandoned, and a new conveyance system, the El Dorado Conduit, constructed.

Application 16212 requested an additional 50 CFS diversion from Pilot Creek and diversion rights totaling 25 CFS from the tributaries to Pilot Creek and Otter Creek that would be intercepted by the proposed conveyance system. The application also requested 3,000 acre-feet of storage at Mutton Canyon and 4,000 acre-feet of storage on an unnamed canyon along the conduit route, but these storage amounts were eventually denied. The District also filed A16688 to divert water from Onion Creek in a similar fashion to that being used by predecessors. However, Onion Creek water would be diverted into Pilot Creek for off-stream

storage at Stumpy Meadows Reservoir and re-diverted from Pilot Creek into the El Dorado Conduit at a point near Mutton Canyon.

Decision 893 (3/18/58) allocated the various waters of the American River watershed including the waters of interest to the District and to SMUD. The District and SMUD had apparently reached agreement at this time as to the exchange of water facilities in the Rubicon River and Pilot Creek. Decision 893 resulted in permits 11304, 11305, and 11306 which approved the District's diversion and storage rights.

On June 25, 1958, the District filed for partial assignment of State Filing A5644, specifically to obtain an earlier filing date for at least certain portions of the Stumpy Meadows Project. The application requested:

- 1) 100 CFS direct diversion from Pilot Creek
- 2) 20,000 acre-feet storage on Pilot Creek as had been described in the Stumpy Meadows Project Feasibility Report prepared by consultant Clair A. Hill.

Permit No. 12827 (6/30/61) approved the 100 CFS diversion and 20,000 acre-feet storage. This permit was issued in compliance with the terms of Decision 1013.

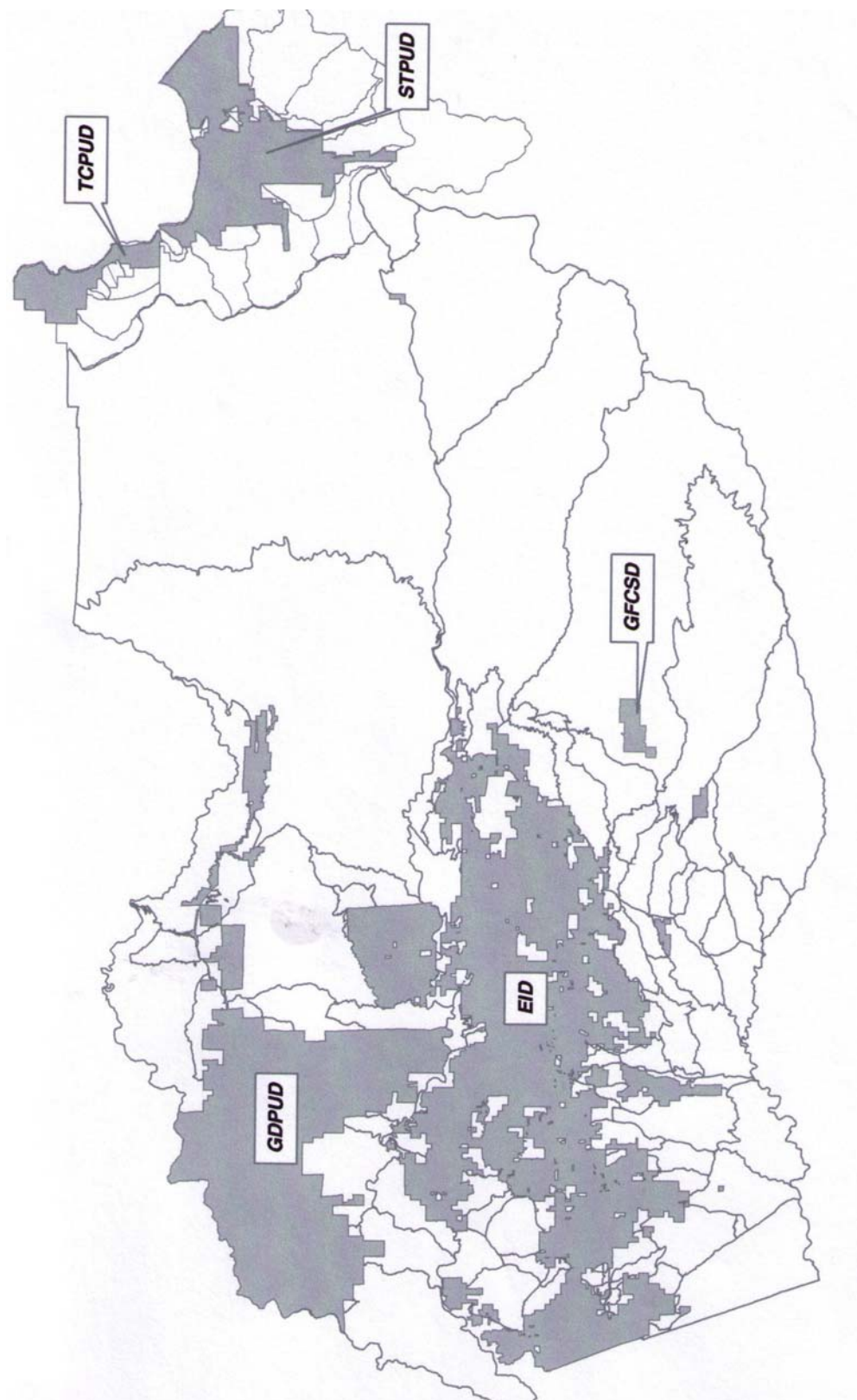
### **3.2. Service Area**

The Georgetown Divide is situated on the west slope of the Sierra Nevada foothills, approximately 45 miles northeast of Sacramento, California. It straddles a ridge which separates the drainage basin of the Middle Fork American River and the Rubicon River on the north from that of the South Fork American River on the south. The District's sphere of influence is bounded on the north, south, and west by these rivers (see Figure 1). The sphere of influence covers about 173,000 acres (270 square miles). The existing service area encompasses approximately 75,000 acres (112 square miles) with approximately 30,000 acres currently having some form of water service available.

GDPUD presently provides domestic water service to the communities of Georgetown, Buckeye, Garden Valley, Kelsey, Spanish Dry Diggins, Greenwood, Cool, and Pilot Hill. The entire service area is located in the unincorporated area of El Dorado County (see Figure 2). Through separate facilities, portions of these same communities also receive untreated water for irrigation purposes

Elevations in the District's service area vary from 500 feet at the southwestern boundary to 6100 feet at Silver Hill on the eastern boundary. The relief varies from rolling foothills in the west to steep slopes and deep canyons in the upper elevations. The community of Georgetown is located at the top of the Divide at an elevation of 2,650 feet.





**Figure 1 - District Location within El Dorado County**

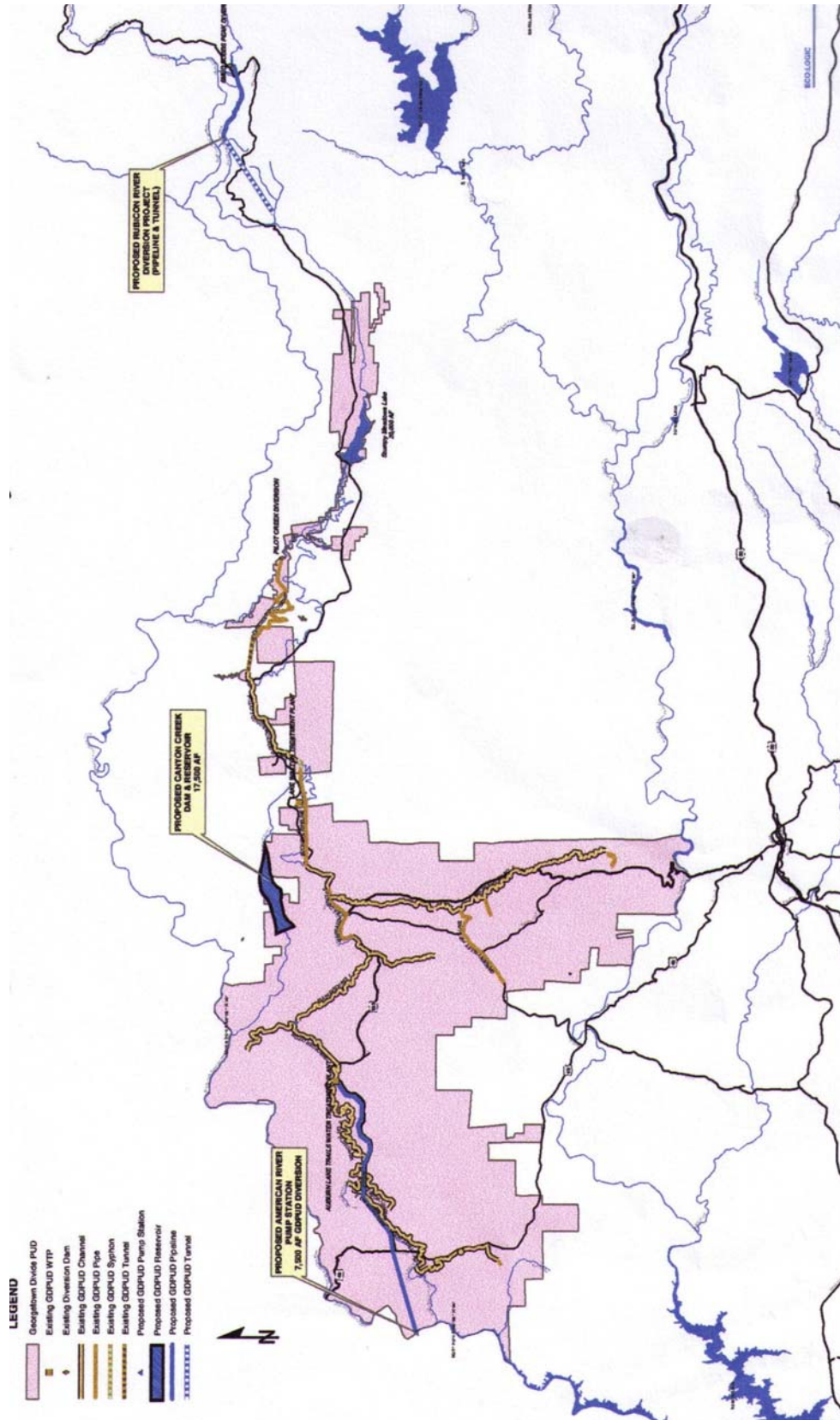


Figure 2 - District Service Area

### **3.3. Climate**

The lower elevations have hot, dry summers and mild winters, whereas the mountainous regions toward the east experience cool summers and fairly severe winters. Near the western portion of the Divide, at Folsom Lake, the mean annual precipitation is 25 inches with a trace of snowfall during the winter. Precipitation increases with elevation, with 40 inches occurring at Garden Valley, 50 inches at Georgetown, and 56 inches at the Silver Hill Ridge. Average annual snowfall in the eastern portion is approximately 16.6 inches. Most of the precipitation falls between late October and mid-April.

The lower foothills have shallow, rocky soils underlain by metamorphic rock. Soil depth is generally less than three feet and, as a result, these lands have very limited agricultural potential. The soils in the higher elevations are weathered to a greater depth and are more suitable for agricultural use, depending upon slope, elevation, and other considerations. The soils in the eastern portion of the District are highly suited for mixed conifer timber stands, and the entire area is heavily forested.

#### **3.3.1. Historical Precipitation Data**

The District maintains records of reservoir inflow, storage, and use from which data on the hydrologic regime of Pilot Creek Watershed, including en-route diversions, are developed on a continuing basis. The District continuously updates studies regarding strategies for reservoir operation as demands on the system vary, including deficiency requirements in critically dry years. The District is well aware of the capabilities of the source, and how to handle operating contingencies in a situation such as what was experienced state-wide in the 1991 water year. Additionally, The District is evaluating alternative water supply projects to supplement the Stumpy Meadows Project.

Precipitation in the Pilot Creek drainage tributary to Stumpy Meadows Reservoir averages about 56 inches per year. Although much of the precipitation occurs as rain, particularly in the lower elevation, western portion of the watershed, there is snow pack accumulation, and often the time-distribution of the runoff hydrograph is controlled by snow accumulation and snow melt. Table 3 presents a summary of the climate information for the District's service area.

**Table 3 - Monthly Climate Summary**

Climate Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
Average Maximum Temperature (degF) <sup>(1)</sup>	52	53	58	64	72	80	89	89	84	73	59	51	69
Average Minimum Temperature (degF) <sup>(1)</sup>	35	35	37	41	47	54	61	60	56	48	40	35	46
Average Total Precipitation (inches) <sup>(1)</sup>	9.6	7.8	7.3	4.3	1.9	0.7	0.1	0.2	0.7	2.9	6.6	8.4	50.5
Average Total Snow Fall (inches) <sup>(1)</sup>	5.3	2.7	2.8	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.5	2.7	15.5
Average Snow Depth (inches) <sup>(1)</sup>	1	1	0	0	0	0	0	0	0	0	0	0	0
Average Evapotranspiration (inches) <sup>(2)</sup>	1.5	1.8	3.5	4.3	6.6	7.9	9.1	8.2	6.2	3.8	1.9	1.1	55.8
(1) Source: Western Regional Climate Center, Georgetown Ranger Station, California (043384), Period of Record: 11/1/1946 to 12/31/2010													
(2) Source: California Irrigation Management Information System, Sierra Foothill, Camino Station #13, Period of Record: 1/1/2000 to 12/31/2010													

### 3.3.2. Runoff Characteristics

There is no set of observed data that will permit direct calculation of the actual inflow to Stumpy Meadows Reservoir. However, there is a USGS stream gaging station (No. 11431800) on Pilot Creek above Stumpy Meadows, which, with a drainage area of 11.7 square miles, represents approximately 77 percent of the watershed tributary to the Reservoir.

Although considered a relatively low elevation watershed at this latitude in the Sierra, snow accumulation and melt still play an important role in the time-distribution of runoff. On the average, approximately 46 percent of the annual runoff occurs during the April-July snowmelt period. Average annual runoff of Pilot Creek above the dam site for the 50 year period 1931-1980 is estimated at 22,370 acre-feet. Flows of record range from a low of 2700 acre-feet during the 1976-77 water year to a high of 59,100 acre-feet during the 1982-83 water year. A review of the variability in both seasonal and water year runoff amounts emphasizes the necessity for substantial storage for regulation of Pilot Creek flows on a multi-year basis in order to assure an adequate water supply to the GDPUD service area.

### 3.4. Demography

The District provides both untreated and treated water to nearly 4,000 customers. The District's billing software only has three water use categories: residential and commercial service for treated water and agricultural service for untreated water. The District modified their billing software in 2011 to include residential (both single and multi-family), commercial, large landscape, and governmental/institutional.

Treated water customers are primarily residential, with 96% of the accounts serving single family homes (3,411 accounts) and a few multi-family units (12 accounts, 94 households) in 2010. The District currently has 15 un-metered connections. The District had only 141 commercial accounts in 2010, which represent only 4% of the total treated water accounts in the District. The commercial category includes all business accounts, governmental offices, schools, and a golf course owned by the Auburn Lake Trails Property Owner's Association.

Untreated water for agricultural usage represents 72% of water sales in the District. In 2010, there were 393 agricultural accounts. Agricultural water is used in a variety of ways on the Divide. Christmas tree farms, vineyards, pasture, orchards and hay production are common uses of agricultural water. This untreated water usage is not included in the analysis of the potable water system demands.

### 3.5. Population

The 2000 U.S. Census Data was used to estimate the current population in the District's service area. The service area includes portions of three census tracts. The District's residential account locations were manually assigned to three census tracts that cover the District's entire service area. Table 4 presents the U.S Census and District customer data used to determine the average number of people per household for the District's service area. Based on the information presented in Table 4, the average number of people per household in the District's service area is 2.71. Therefore, the District's service area population in 2010, based on 3,505 residential households, was 9,499.

**Table 4 - District's Number of People per Household**

Census Tract	2000 Census Tract Data			District Information	
	Population	Number of Households	Average Household Size	Number of Households	Estimated Population
306.01	4,607	1,674	2.75	1,512	4,161
306.02	5,786	2,149	2.69	1,809	4,871
306.03	2,776	1,108	2.51	163	408
District's Weighted Average Number of People per Household					2.71

#### 3.5.1. Population Projections

Residential and non-residential (employment) land forecasts for the Western Slope area of El Dorado County were developed by Economic & Planning Systems (EPS) as part of the 2004 County General Plan/EIR process. Due to topography, zoning, water supply, and sewage disposal constraints, the District's growth rate is not expected to significantly increase in the coming years. The Housing Element of the El Dorado County General Plan was updated in 2008 to revise the average annual population growth rate to 1.9% per year between 2010 and 2020 and 1.6% between 2020 and 2030. For comparison, the growth rate in the District's residential accounts between 1990 and 2000 was 3.1% and between 2000 and 2010 was 1.8%. Table 5 presents the estimated population growth between 2010 and 2030 based on an occupancy rate of 2.71 persons per household.

**Table 5 - Population, Current and Projected Through 2030**

District Service Area Population	2010	2015	2020	2025	2030
	9,499	10,436	11,466	12,413	13,438

### 3.6. Other Demographic Factors

There are no other demographic factors affecting the District's water management planning.



## 4.0 System Demands

### 4.1. Base Water Production

Per DWR's UWMP Guidance Manual, gross water use is defined as the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier excluding the following:

1. Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.
2. The net volume of water that the urban retail water supplier places into long-term storage.
3. The volume of water the urban retail water supplier conveys for use by another urban water supplier.
4. The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24 of the Act.

Water production is the volume of treated water, measured at the outlet of each WTP, that is metered to residential and commercial customers. Total water production also includes water that was produced, but not accounted for in the District's water meter system. This "unaccounted-for" water includes non-revenue water (fire hydrant flushing, fire-fighting, etc.), unmetered connections, and water losses. Water production does not include the untreated irrigation water distributed by the District through its canal system.

The Act requires evaluation of the District's water production over both a continuous 10-year and 5-year period. The 10-year period is required to end between 2004 and 2010. The 5-year period is required to end between 2007 and 2010. Table 6 and Table 7 present the District's five and ten year base daily per capita water use. Table 8 presents the basis for selection of the base period ranges.

**Table 6 - Base Daily per Capita Water Use, 5 Year Range**

Base period year		Distribution System Population	Daily System Water Production (mgd)	Annual Daily per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	2004	9,276	1.957	211
Year 2	2005	9,401	1.865	198
Year 3	2006	9,471	1.749	185
Year 4	2007	9,515	1.779	187
Year 5	2008	9,442	1.915	203
Base Daily Per Capita Water Use				197

**Table 7 - Base Daily per Capita Water Use, 10 Year Range**

Base period year		Distribution System Population	Daily System Water Production (mgd)	Annual Daily per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	1999	8,108	1.702	210
Year 2	2000	8,312	1.616	194
Year 3	2001	8,599	1.747	203
Year 4	2002	8,875	1.731	195
Year 5	2003	9,035	1.684	186
Year 6	2004	9,276	1.957	211
Year 7	2005	9,401	1.865	198
Year 8	2006	9,471	1.749	185
Year 9	2007	9,515	1.779	187
Year 10	2008	9,442	1.915	203
Base Daily Per Capita Water Use				197

**Table 8 - Base Period Ranges**

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	698.82	acre-feet/yr
	2008 total volume of delivered recycled water	0	acre-feet/yr
	2008 recycled water as a percent of total deliveries	0	percent
	Number of years in base period <sup>(1)</sup>	10	years
	Year beginning base period range	1999	
	Year ending base period range <sup>(2)</sup>	2008	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2004	
	Year ending base period range <sup>(3)</sup>	2008	
<p>(1) If the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first base period is a continuous 10- to 15 year period.</p> <p>(2) The ending year must be between December 31, 2004 and December 31, 2010.</p> <p>(3) The ending year must be between December 31, 2007 and December 31, 2010.</p>			

## 4.2. GPCD Targets

Per the law as adopted in SBx7-7, the District must establish per capita water use targets using one of four methods:

1. Method 1 - Eighty percent of the urban retail supplier's baseline per capita daily water use.
2. Method 2 - The per capita daily water use that is estimated using the sum of several defined performance standards.



3. Method 3 - Ninety-five percent of the Sacramento hydrologic region target of 176 gpcd.
4. Method 4 - Calculated water savings based on indoor residential water savings, metering savings, commercial/industrial/institutional savings, and landscape and water loss savings.

Based on Method 3, the District selects the urban water use target of 167 gpcd for 2020 and an interim target of 182 gpcd for 2015. The interim 2015 target is calculated as the average between the District's base usage of 197 gpcd and the 2020 target of 167 gpcd.

#### **4.3. Water Use Reduction Plan**

On May 10, 2011, the District conducted a public hearing at its regular board meeting to discuss the District's implementation plan for complying with the AB 1420, the Water Conservation Bill of 2009. Since 2005, the District has implemented all applicable Demand Management Measures. No additional economic impacts are anticipated from the adoption of the 2010 UWMP.

#### **4.4. Historical and Projected Water Use by Customer Type**

The District's annual treated water demand represents water sales to residential and commercial customers. Commercial customers include commercial, industrial, and institutional water users. Between 1999 and 2008, the distribution of water use by customer type was as follows:

- 79% single family residential
- 1% multi-family residential
- 14% commercial
- 6% other

Other water use is the difference between total water sales and total water production or about 40 acre-feet per year on average between 1999 and 2008. This represents approximately 6% of the total water sales and includes a number of uses. Authorized uses include water for 15 un-metered water connections, fire-fighting and training, hydrant flushing, backwash water, construction water and other miscellaneous uses. Un-authorized uses include pipeline leaks, water meter inaccuracy, tank overflows, and possible stolen water. This component is also known as unaccounted-for water. It is estimated that about 25 AF of the un-metered water goes to authorized uses and the remaining 15 AF is unaccounted-for water. The District's unaccounted-for water volumes were about 2% between 1999 and 2008. The unaccounted-for water volumes have not been higher than 3% in any recent year, and the District will continue its vigilance in reducing water losses with on-going programs to repair pipeline leaks as soon as they are discovered, replace old, less reliable pipelines, and upgrade older, potentially inaccurate, water meters.

#### 4.4.1. Past Water Use

Table 9 presents the past water use by customer categories for 2005. Note that the District's existing billing software provides information for residential, commercial and raw water agricultural users only.

**Table 9 - Past Water Deliveries, 2005**

Water Use Sectors	2005				
	Metered		Not metered		Total
	# of Accounts	Volume (acre-feet/yr)	# of Accounts	Volume (acre-feet/yr)	Volume (acre-feet/yr)
Single family	3,375	1,511.2	2	0.9	1,512.1
Multi-family	94	23.8	-	-	23.8
Commercial	143	233.0	4	6.5	239.5
Industrial	-	-	-	-	-
Institutional/governmental	-	-	9	14.7	14.7
Landscape	-	-	-	-	-
Agriculture (untreated)	382	4,744.3 <sup>(1,2)</sup>	-	-	4,744.3
Other	-	-	-	299.2	299.2
Total (treated & untreated)	3,994	6,512.3	15	321.3	6,833.6
<b>Total (treated only)</b>	<b>3,612</b>	<b>1,768.0</b>	<b>15</b>	<b>321.3</b>	<b>2,089.3</b>
Notes: (1) Agricultural (untreated) water is metered using a subsurface orifice and is sold by the miner's inch. (2) Agricultural (untreated) water demand does not include carriage and ditch losses. Losses are included for the treated water. Latent demand is included in the future projected demands.					

#### 4.4.2. Current Water Use

Table 10 presents the current water use by customer categories for 2010.

**Table 10 - Current Water Deliveries, 2010**

Water Use Sectors	2010				
	Metered		Not metered		Total
	# of Accounts	Volume (acre-feet/yr)	# of Accounts	Volume (acre-feet/yr)	Volume (acre-feet/yr)
Single family	3,411	1,379.4	2	0.8	1,380.2
Multi-family	94	16.6	-	-	16.6
Commercial	141	237.0	4	6.7	243.7
Industrial	-	-	-	-	-
Institutional/governmental	-	-	9	15.1	15.1
Landscape	-	-	-	-	-
Agriculture (untreated)	393	4,280.3 <sup>(1,2)</sup>	-	-	4,280.3
Other	-	-	-	43.4	43.4
Total (treated & untreated)	4,039	5,913.3	15	66.1	5,979.4
<b>Total (treated only)</b>	<b>3,646</b>	<b>1,633.0</b>	<b>15</b>	<b>66.1</b>	<b>1,699.1</b>
Notes: (1) Agricultural (untreated) water is metered using a subsurface orifice and is sold by the miner's inch. (2) Agricultural (untreated) water demand does not include carriage and ditch losses. Losses are included for the treated water. Latent demand is included in the future projected demands.					

#### 4.4.3. Projected Water Use

Table 11 and Table 12 present the projected water use by customer categories for both metered and not metered use for 2015 and 2020, respectively.

Table 13 presents the projected metered water use by customer categories for both 2025 and 2030. The projected water demands are based upon the following parameters:

- Population Projections from Table 5
- 2015 Interim Target and 2020 Targets for gallons per capita per day
- Distribution of water use by category presented in Section 4.4
- Raw water agricultural usage based on the El Dorado County Water Agency Water Resource and Development Management Plan, December 2007 (Note that this does not reflect the District's 2005 Irrigation Ordinance, which limits agricultural usage to the 2003 demand)

**Table 11 - Projected Water Deliveries, 2015**

Water Use Sectors	2015				
	Metered		Not metered		Total
	# of Accounts	Volume (acre-feet/yr)	# of Accounts	Volume (acre-feet/yr)	Volume (acre-feet/yr)
Single family	3,748	1,683.5	2	0.9	1,684.4
Multi-family	103	23.3	-	-	23.3
Commercial	155	294.1	4	7.6	301.7
Industrial	-	-	-	-	-
Institutional/governmental	-	-	9	17.1	17.1
Landscape	-	-	-	-	-
Agriculture (untreated)	504	5,493.7 <sup>(1,2)</sup>	-	-	5,493.7
Other	-	-	-	94.5	94.5
Total (treated & untreated)	4,510	7,494.6	15	120.1	7,614.7
<b>Total (treated only)</b>	<b>4,006</b>	<b>2,000.9</b>	<b>15</b>	<b>120.1</b>	<b>2,121.0</b>
Notes: (1) Agricultural (untreated) water is metered using a subsurface orifice and is sold by the miner's inch. (2) Agricultural (untreated) water demand does not include carriage and ditch losses. Losses are included for the treated water. Latent demand is included in the future projected demands.					

**Table 12 - Projected Water Deliveries, 2020**

Water Use Sectors	2020				
	Metered		Not metered		Total
	# of Accounts	Volume (acre-feet/yr)	# of Accounts	Volume (acre-feet/yr)	Volume (acre-feet/yr)
Single family	4,118	1,696.0	2	0.8	1,696.8
Multi-family	113	23.4	-	-	23.4
Commercial	170	296.3	4	7.0	303.3
Industrial	-	-	-	-	-
Institutional/governmental	-	-	9	15.7	15.7
Landscape	-	-	-	-	-
Agriculture (untreated)	616	6,707.1 <sup>(1,2)</sup>	-	-	6,707.1
Other	-	-	-	97.5	97.5
Total (treated & untreated)	5,017	8,722.8	15	120.9	8,843.8
<b>Total (treated only)</b>	<b>4,401</b>	<b>2,015.7</b>	<b>15</b>	<b>120.9</b>	<b>2,136.7</b>
Notes: (1) Agricultural (untreated) water is metered using a subsurface orifice and is sold by the miner's inch. (2) Agricultural (untreated) water demand does not include carriage and ditch losses. Losses are included for the treated water. Latent demand is included in the future projected demands.					

**Table 13 - Projected Water Deliveries, 2025 and 2030**

Water Use Sectors	2025		2030	
	# of Accounts	Volume (acre-feet/yr)	# of Accounts	Volume (acre-feet/yr)
Single family	4,458	1,836.0	4,826	1,987.6
Multi-family	122	25.4	132	27.5
Commercial	187	320.8	205	347.3
Industrial	-	-	-	-
Institutional/governmental	-	-	-	-
Landscape	-	-	-	-
Agriculture (untreated)	727	7,920.5 <sup>(1)</sup>	839	9,133.3 <sup>(1)</sup>
Other	-	130.9	-	141.7
Total (treated & untreated)	5,494	10,233.6	6,002	11,637.4
<b>Total (treated only)</b>	<b>4,767</b>	<b>2,313.1</b>	<b>5,163</b>	<b>2,504.1</b>
Notes: (1) Agricultural (untreated) water demand does not include carriage and ditch losses. Losses are included for the treated water. Latent demand is included in the future projected demands.				

#### **4.5. Wholesaler Water Demand Projections**

The District is a retail water provider that does not rely on a wholesale agency for any sources of water. The District does not serve as a wholesale water provider to any other agency. Therefore, the District is not required to share its water demand projections with any other agency.

The District does not supply any water for saline water intrusion barriers, groundwater recharge, or conjunctive use.

#### **4.6. Low Income Housing Demand**

The 2008 Housing Element Update of the El Dorado County General Plan states that 139 low or very low income housing is planned for the communities of Cool and Pilot Hill. The 2008 Housing Element Update does not distinguish between single and multi-family residences. Projections of low income housing water demand are based on 2.71 persons per household and 2010 UWMP water use targets of 182 gpcd in 2015 and 167 gpcd in 2020 and beyond.

**Table 14 - Projected Low Income Housing Water Demand**

Water Use Sector	Low Income Water Demands (acre-feet/yr)			
	2015	2020	2025	2030
Single-family residential	77	70	70	70
Multi-family residential				
Total	77	70	70	70

## **5.0 System Supplies**

### **5.1. Source of Supply – Stumpy Meadows Surface Water Diversion**

The primary source of water to GDPUD is the Stumpy Meadows Project, which includes storage facilities, diversion structures, and a conveyance system to the service area. The project was completed in 1962 using funds from a Public Law 984 Loan administered by the Mid-Pacific Region of the U.S. Bureau of Reclamation

#### **5.1.1. Description of Watershed**

Stumpy Meadows Reservoir is formed by a 162 foot-high rock and earth fill dam (Mark Edson Dam) on Pilot Creek. The normal operating level is at the spillway crest at elevation 4,262', with storage of 20,000 acre-feet and a surface area of 330 acres. The minimum pool elevation is 4,170' with a dead storage of 1,200 acre-feet, and a usable storage of about 18,800 acre-feet.

The outlet structure is a screened, 5' x 5' precast reinforced concrete intake tower with a sill elevation of 4132' (130' below the crest of the spillway). Water released from the reservoir is funneled through a 30" welded steel pipeline which discharges to atmosphere. Flows are controlled by a Howell-Bunger valve at the discharge end of that line, with the water being redirected into Pilot Creek. The catchment area of the watershed supplying the Stumpy Meadows project is approximately 15.1 square miles, ranging in elevation from 4,170 feet to 6,190 feet.

The spillway is an un-gated over pour section constructed in a horseshoe configuration. It discharges into a concrete chute which rejoins Pilot Creek approximately 500 feet below the toe of the dam.

Water is released into Pilot Creek and is re-diverted into the District's water supply system by Pilot Creek Diversion Dam, two miles downstream of Edson Dam, near the mouth of Mutton Canyon Creek. The Pilot Creek Diversion Dam is a 110' x 20' reinforced concrete structure which diverts water into the El Dorado Conduit. A 36" sluice gate controls the flow into an open concrete channel that provides the inlet to a 48" RCP conduit. The inlet structure is screened by a trash rack constructed of No. 8 rebar on 9" centers. The diversion is made into the El Dorado Conduit. The portion of the watershed above the diversion structure which is not included in the Stumpy Meadows Reservoir watershed is about 4.1 square miles.

Diversion structures along the conveyance system, the El Dorado Conduit, divert water from cross drainages between Mutton Canyon and Tunnel Hill. Some of the en-route drainage is also intercepted by the conveyance ditch. These en-route cross diversions provide minimal supplementary supply to the District's system, and drain, in total, approximately three square miles above Tunnel Hill.

The small watersheds tapped by the Stumpy Meadows Project below the reservoir are in a lower elevation region where snow accumulation and melt have a lesser impact on time-distribution of runoff, rendering the available water supply from these diversions less dependable and entirely secondary to the primary supply of the reservoir.

### **5.1.2. Yield Analysis**

In order to determine the adequacy of the Georgetown water supply system, yield analyses were prepared. Sierra Hydrotech analyzed yield of the water supply system, in a report "Stumpy Meadows Project Safe Yield Analysis", June 1985, Revised 1986. This report described project yield delivered to the service area with deficiencies taken in a critically dry year. Analysis was by a computer model using a monthly reservoir operation simulation, including diversion and losses in the conveyance system. The State Department of Water Resources (DWR) re-analyzed project yield data with virtually the same results. Reference to project yield in this report refers to the results of the DWR re-analysis.

#### **Definition of Yield**

When used in conjunction with water supply projects, the term "yield" generally refers to an annual quantity of water that can be made available to the potential project service area on a specified delivery schedule. Since this is only a general definition, more specific descriptions are required to distinguish the different types of yield. In this report, two types of yield will be discussed.

- Safe Yield is defined as "the maximum quantity of water that can be made available without deficiency each and every year without any adverse effects and under hydrologic conditions similar to those in the historic record."
- Firm Yield is defined as "the maximum annual quantity of water that can normally be made available each year under historic hydrologic conditions. Exceptions are allowed in critical and some dry years when a deficiency may be imposed."

Based on available hydrologic data and operation studies performed by Sierra Hydrotech and DWR, 1975 through 1978 was determined to be the most critical hydrologic period for the Stumpy Meadows Project as configured, and has been used as the critical period for determining the firm yield of the source.

#### **Stumpy Meadows Project Firm Yield**

The objective of the firm yield analysis was to operate the Stumpy Meadows system for the period 1927 through 1983 for various levels of deficiencies in treated and untreated deliveries. The system was operated similarly to the safe yield analysis with the exception that during dry periods such as 1976 and 1977, deficiencies were applied to the water requirements.

"Firm yield" with projected water requirements used in this report represents a deficiency of 10 percent for treated water and 50 percent for untreated water in critically dry years. Firm yield values reflect the operational losses and water requirements. The firm yield of the 20,000 acre-foot Stumpy Meadows Reservoir is 12,200 acre-feet, which allows for critical dry year deficiencies in raw water and treated water deliveries. The firm yield meets both the treated water and untreated water demands through 2030 (total demand = 11,638 acre-feet).



### 5.1.3. Description of Domestic Water System

Raw water from Stumpy Meadows Reservoir is released down Pilot Creek, where it is diverted and conveyed through approximately 70 miles of supply ditch/conduits to Walton Lake, a raw water surface impoundment. Walton Lake supplies raw water to the Walton Lake Water Treatment Plant. The plant is located four miles east of Georgetown and has a production capacity of 3.0 million gallons per day. After treatment, water is pumped into the distribution system that serves Georgetown, portions of Greenwood, Kelsey and Garden Valley.

A system of pipes and open ditches conveys water to another 10 acre-foot surface water impoundment that serves the Auburn Lake Trails Water Treatment Plant and the western portion of the service area including Cool, Pilot Hill and portions of Greenwood. The plant is located in the Auburn Lake Trails subdivision and has a production capacity of 3.0 million gallons per day.

The District's treated water distribution system consists of eight generalized pressure zones, 11 treated water storage tanks, 200 miles of distribution mains and six water pumping stations.

The GDPUD water system is linear in nature, relying on Stumpy Meadows Reservoir to the east and the system of pipes and ditches to convey water down slope to the west to various places of use. The District operates several small regulating reservoirs; however, with a break or outage in the primary transmission system, the potential exists for water supply disruptions if the outage lasts for several days. Future water supply options should consider the ability to improve redundancy and the level of water service reliability, in addition to meeting projected water demands.

## 5.2. Existing and Planned Water Sources

The Stumpy Meadows Reservoir is the only existing and planned water source for the District. Table 15 presents the capacity of the District's water supply sources from 2010 through 2030.

**Table 15 - Current and Projected Sources of Water**

Water Supply Sources	Water Source Capacity, acre-feet/yr				
	2010	2015	2020	2025	2030
Wholesale water provider	0	0	0	0	0
Supplier produced groundwater	0	0	0	0	0
Supplier surface diversion- Stumpy Meadows Reservoir <sup>(1)</sup>	12,200	12,200	12,200	12,200	12,200
Transfers in or out	0	0	0	0	0
Exchanges in or out	0	0	0	0	0
Recycled Water	0	0	0	0	0
Desalinated Water	0	0	0	0	0
Other	0	0	0	0	0
Total	12,200	12,200	12,200	12,200	12,200
(1) Stumpy Meadows Reservoir has a storage capacity of 20,000 AF but its firm reliable yield is 12,200 AF which is the maximum annual quantity of water that can normally be made available each year under historic hydrologic conditions.					

### **5.2.1. Potential Groundwater Sources**

The District has no plans to use groundwater as a source of water to supplement the surface water source. For the following reasons, local ground water resources are not of adequate quality or quantity to be a viable augmenting resource.

On the western slope of El Dorado County, groundwater occurs primarily in hard rock. In the county as in other parts of the Sierra Nevada foothills, alluvium consisting of unconsolidated deposits of clay, silt, sand, and gravel laid down by flowing water occurs only in small areas too thin to provide a significant amount of storage. Thus the amount of usable groundwater is limited. A cooperative study entitled *Georgetown Divide Water Management Study* prepared by the Department of Water Resources describes water supply alternatives available to the Georgetown Divide area and includes a discussion of the groundwater situation on the western slope. The following is an example from that study:

Many wells are drilled in hard crystalline rock that lies at or near the ground surface or under the thin layers of alluvium. In rock formations water moves through, and is stored in, fractures in the rock mass. The width of each fracture usually decreases with depth, causing diminished water flow and storage capacity. The amount of water that can be stored and transmitted in such fractures is generally small compared to the amount that can be held and conveyed in a porous alluvial aquifer. The survey showed that while many residential wells produced 4 to 10 gallons per minute (gpm), many had flow rates less than 1 gpm and some had gone dry. Other reports substantiate the limitation of groundwater as a dependable source of water for supplementing public water supply or augmenting surface water storage during droughts. In fact, the contrary may be true where users of groundwater may look to the Districts for service when their wells go dry during droughts. Surveys also indicate that groundwater quality, though satisfactory in most areas of the western slope, is often marginal. As future development occurs in areas beyond pipeline service, both quantity and quality of groundwater sources could be threatened.

### **5.2.2. Water Exchange or Transfer Opportunities**

The District is geographically separated from its neighboring water purveyors by the three forks of the American River. Also, the District has no existing intertie facilities with neighboring water agencies to either exchange raw water or transfer treated water to supplement the District's existing water source. Consequently, there is no immediate mechanism for the transfer of water into or out of the District through a mutual aid agreement should the need arise. Furthermore, due to the isolated nature of the District's service area, it is not practical to construct any exchange or transfer facilities.

### **5.2.3. Desalinated Water Project Opportunities**

The District does not have any opportunities to develop desalinated water due to its remote location from any ocean water, brackish water, or high salinity groundwater.

#### **5.2.4. Recycled Water Opportunities**

There is currently no recycled water being used in the District's service area and there are very limited opportunities in the area to use recycled water as there are no sewer systems on the Divide. However, the District is the managing entity for the on-site wastewater disposal systems in the Auburn Lake Trails Subdivision. Treatment from these systems is limited to septic tank treatment and disposal is mainly via leach fields. Development of a recycled water supply from the Auburn Lake Trails Subdivision disposal system is not practical.

#### **Auburn Lake Trails Wastewater Disposal Systems**

In 1984, as part of class action legal settlement, the District became the regulatory agency responsible for wastewater disposal within the 1,100 lot Auburn Lake Trails Subdivision in Cool, and the owner of the Community Disposal System (CDS) serving 139 smaller lots in the subdivision. The Auburn Lake Trails On-Site Wastewater Disposal Zone (OSWDZ or Zone) was formed on March 19, 1985. The purpose of the Zone is to preserve and protect the environment and public health through an approved management program for individual and small community waste disposal systems in lieu of an area-wide sewage collection, treatment, and disposal system. As set forth in the Resolution 84-6 the District "shall investigate, test, design, operate, monitor, inspect and if necessary, maintain and repair the On-Site Wastewater Disposal Systems within the Zone at the individual homeowner's expense" The Auburn Lake Trails Zone was one of the first of its type in the State and served as a model for other OSWDZ in the State and in the nation.

There are currently 997 developed lots within the Subdivision. The type of individual on-site wastewater disposal system utilized on a particular lot is dependent on site-specific soil conditions. Disposal systems currently utilized in the Subdivision are the conventional leach field, mound, pressure dosed, intermittent sand filter, and other alternative wastewater disposal systems.

The Community Disposal System (CDS) was used for the remaining 139 lots that could not support any of the previously mentioned systems. The CDS collects only septic tank effluent from each residential unit's septic tank. This partially treated wastewater flows by gravity or is pumped up to the effluent lift station. From the lift station, the effluent is pumped to a large tank for distribution to the leach fields. The wastewater effluent is not chemically treated prior to disposal. There are a total of 38 manholes, 13,360 feet of collection line, a lift station and wet well, and approximately 1,800 feet of force main all connected to the community leach fields. The lift station is equipped with an emergency generator and a failsafe electrical backup system. The community leach fields consist of approximately 11,600 lineal feet of leach line.

Presently, there are 134 homes connected to the CDS. An ultrasonic flow meter continuously monitors the wastewater flow to the CDS fields. Average dry weather wastewater flows from this CDS system have been about 22,000 gallons/day for the past five years. At build-out, it is anticipated that the wastewater flows will be approximately 32,000 gallons/day. This wastewater is not disinfected and is classified as primary wastewater.

### **Recycled Water Evaluation**

In 2005, the Auburn Lake Trails property Owner's Association and the District evaluated the potential for utilizing recycled water from the CDS system to irrigate the POA golf course. The existing nine hole golf course presently uses treated District water for irrigation purposes and the average daily demand during the summer months is 100,000 gallons per day. It was determined that it was cost prohibitive at this time for the following reasons:

- The wastewater system did not produce sufficient water during the summer months to meet the water demands of the golf course.
- A small ultra-filtration/disinfection plant would need to be installed to meet the State's recycled water standards.

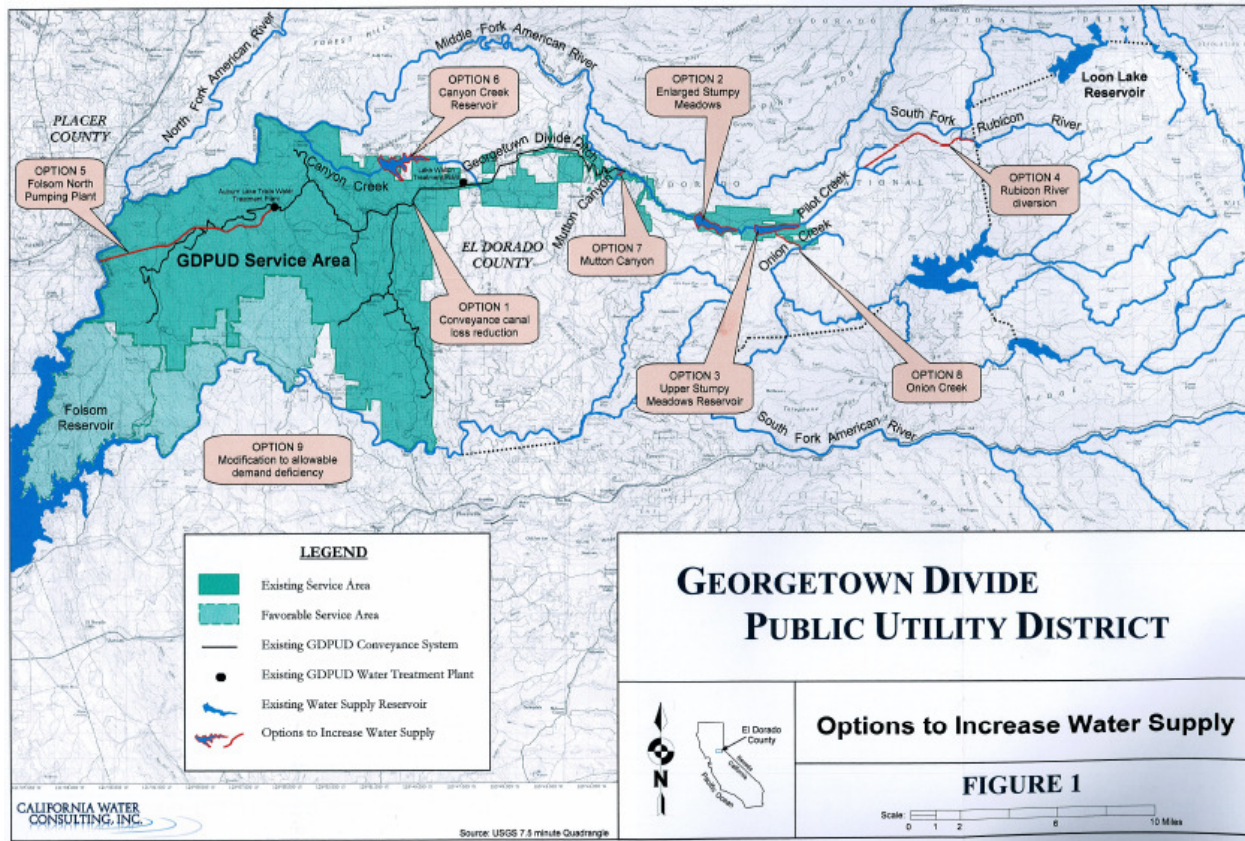
The District has continued to explore funding mechanisms to recycle this wastewater for beneficial uses.

### **5.3. Future Water Projects**

At some point in the future, if the District continues to grow and the demand for domestic treated water and agricultural raw water increases, a supplemental water supply to the Stumpy Meadows Project will be necessary to meet District-wide demands. A supplemental water supply would also reduce the magnitude and the frequency of projected water supply deficiencies during a critical drought period.

#### **5.3.1. Potential Water Supply Projects**

Over the years, the District has investigated numerous water supply alternatives. The 1992 Department of Water Resources (DWR) report, "Georgetown Divide Water Management Study" evaluated a number of storage reservoir projects, pumping from the American River and diversion from the Rubicon River Project. More recent evaluations conducted by the District refined the various project configurations and cost estimates. The most recent study was performed in 2009 – "Options To Increase Water Supply." Table 16 presents a summary of the options considered to increase the District's water supply. Figure 3 presents a schematic of the District's existing water supply system along with several of the most viable water supply options for the future. Most of these future water supply projects are in the investigative stage at this time with no immediate plans for implementation. There are however, two County water supply initiatives, as described in the "2009 – Options to Increase Water Supply" study, in various stages of development that may provide water supply to the District via the North Fork American River Pumping Plant.



**Figure 3 - Water Supply Options**

**Table 16 - Summary of Options to Increase Water Supply**

Option Description	Additional Normal Year <sup>(1)</sup> Water Yield (acre-feet/yr)	Initial Cost (\$ million)	Water Cost (\$/acre-foot/yr)
Conveyance Canal Loss Reduction	670	11.5	1,200
Enlarge Stumpy Meadows Reservoir	250 to 1,000	(2)	(2)
Upper Stumpy Meadows Reservoir	3,200	(2)	(2)
Rubicon River Diversion	3,300 to 10,300	59.0	470 to 1,100
North Fork American River Pumping Plant	10,300	14.2	230
Canyon Creek Reservoir	6,100	108.3	1,200
Mutton Canyon Diversion	100	0.14	130
Onion Creek Diversion	50 to 300	2.2	500 to 3,000
(1) No information is available regarding the yield during dry years.			
(2) No cost information has been developed for this option.			

## **6.0 Water Shortage Reliability**

### **6.1. Water Supply Management**

The District has taken steps to improve water service reliability. The District has an ongoing capital improvement program to address system reliability that maximizes the available water supply in the future.

In addition to forecasting domestic water demands for the next 20 years, Table 11 through Table 13 also project an increase in raw water agricultural demand during that same time period. In an effort to plan for future domestic demands, the District has taken steps to control the rate of increase of agricultural water service. The District adopted Ordinance 2005-01 in 2005 which allows District staff to respond to reliability issues predicted by the General Plan estimations of growth in agricultural water service. New requests for agricultural service are evaluated each year based on available supply and will not be permitted unless there is sufficient capacity to meet the service requested. The irrigation season is generally from May 1 to October 1 of each year. A copy of the Ordinance is included in Appendix E.

The District's ongoing management practices and conservation programs to reduce losses in the water conveyance system by lining ditches with gunite, replacing ditches with pipelines, and improving operations that affect losses, will have a value in increasing the life of the present water supply. The District estimates that operational losses in the ditch conveyance system account for up to 3,000 acre-feet of water per year. Improved water supply efficiency will decrease the amount of water required from any of the water supply projects under consideration. However, conservation alone will not be sufficient to meet the long-term projected demands within the District's service area, and eventually, implementation of an additional water supply supplemental to the Stumpy Meadows Project will be necessary.

### **6.2. Water Supply Reliability**

This section describes the reliability of the District's water supply and its vulnerability to seasonal or climatic shortages.

The District's only supply of water is surface water from the Stumpy Meadows Reservoir. Because this is a surface water supply, it is subject to significant reductions during dry years. However, there are no other legal, environmental or water quality limits on this source of supply. Options for additional water supply are presented in Table 16, but there are no current plans to implement any of these options.

The District's water supply is the Pilot Creek watershed which culminates in the Stumpy Meadows Reservoir. The average annual runoff is 22,370 acre-feet (AF). Reservoir capacity is 20,000 AF. The District monitors its supply by measuring the reservoir level on the second Tuesday in April each year. During a normal year the reservoir would be full at this time. The lowest reservoir level seen at this time was during 1977 when the reservoir's volume was only 11,060 AF. The District has elected to use the worst case single year condition from 1977 as the three-year condition to be conservative. Table 17 presents an estimate of the minimum water supply available during the next three years based on the driest three-year condition.



**Table 17 - Supply Reliability During Worst-Case Three Year Dry Period**

Water Supply Sources	Average / Normal Water Year Supply (acre-feet)	Single Dry Water Year Supply (acre-feet)	Multiple Dry Water Year Supply (acre-feet)		
		1977	2012	2013	2014
Stumpy Meadows Reservoir	20,000	11,060	11,060	11,060	11,060
Percent of Normal Year Water Supply:		55%	55%	55%	55%

**6.2.1. Comparison of Supply and Demand**

Table 18 through Table 20 present a comparison of the District's water demands and water supply for normal year, single dry year, and multiple dry years, respectively. Note that even though the total demand exceeds the supply during the worst case dry years by 5%, only 28% of the demand is for domestic water. The remaining 72% of the water demand is agricultural water. If these conditions were to occur, the District Board would address the situation by restricting the agricultural water use to the amount of water available.

**Table 18 - Water Supply and Demand Comparison, Normal Year**

	Water Volume (acre-feet/year)			
	2015	2020	2025	2030
<b>Total Water Supply<sup>(1)</sup></b>	12,200	12,200	12,200	12,200
<b>Total Water Demand</b>	7,615	8,843	10,233	11,637
<b>Difference (Supply – Demand)</b>	4,585	3,357	1,957	563
<b>Difference as % of Water Supply</b>	+38%	+28%	+16%	+5%
<b>Difference as % of Water Demand</b>	+60%	+38%	+19%	+5%
(1) Stumpy Meadows Reservoir has a storage capacity of 20,000 AF but its firm reliable yield is 12,200 AF which is the maximum annual quantity of water that can normally be made available each year under historic hydrologic conditions.				

**Table 19 - Water Supply and Demand Comparison, Single Dry Year**

	Water Volume (acre-feet/year)			
	2015	2020	2025	2030
<b>Total Water Supply</b>	11,060	11,060	11,060	11,060
<b>Total Water Demand</b>	7,615	8,843	10,233	11,637
<b>Difference (Supply – Demand)</b>	3,445	2,217	827	(577)
<b>Difference as % of Water Supply</b>	+31%	+20%	+7%	-5%
<b>Difference as % of Water Demand</b>	+45%	+25%	+8%	-5%

**Table 20 - Water Supply and Demand Comparison, Multiple Dry Years**

	Water Volume (acre-feet/year)			
	2015	2020	2025	2030
<b>Total 3-Year Water Supply</b>	33,180	33,180	33,180	33,180
<b>Total 3-Year Water Demand</b>	22,845	26,532	30,699	34,911
<b>Difference (Supply – Demand)</b>	10,335	6,648	2,481	<b>(1,731)</b>
<b>Difference as % of Water Supply</b>	+31%	+20%	+7%	<b>-5%</b>
<b>Difference as % of Water Demand</b>	+45%	+25%	+8%	<b>-5%</b>

**6.2.2. Resource Maximization**

The District maximizes their supply resource by planning their water deliveries based on the availability of water from the Stumpy Meadows reservoir each year. Priority is given to the domestic water customers and deliveries of raw agricultural water are evaluated each spring (mid-April) prior to the irrigation season (approximately from May 1 to October 1). Agricultural irrigation water is provided based on the water available that year.

**6.3. Water Shortage Contingency Plans**

The District has two water shortage contingency plans. The first plan provides emergency response to sudden water shortages or water quality emergencies. The second plan describes the District's staged response to address potential long-term water shortage conditions due to drought.

**6.3.1. Water Supply Emergency Response Plan**

The District's emergency response plan was prepared to respond to a sudden water shortage or water quality emergency such as might occur in the event of significant system damage from a major earthquake, or during a prolonged power outage, or in the event of a water quality emergency from bacteriological or chemical contamination of the water supply. Key provisions of the plan are summarized below:

**Readiness**

The District's primary emergency operations center would be created at the District office, at 6425 Main St. Georgetown CA. The District office is equipped with radios, telephones, telemetry equipment, emergency equipment, and supplementary documents and supplies. The emergency operations center would be the central point of coordination for government services, communications, and emergency public information.

Communication protocols have been established and damage evaluation procedures have been defined. In the immediate period following a major disaster, such as a fire, the District's initial task would be to evaluate the water supply system and to isolate breaks in order to minimize storage losses as quickly as possible.

The emergency operating center staffing would include the General Manager or his/her designee plus additional staff to help coordinate disaster control activities and communicate with the public. Other key District personnel would be assigned specific roles depending on the



magnitude of the emergency as well as the time of occurrence. On non-business days and after hours, the District maintains 24-hour response capability with the assignment of trained on-call workers, which can be summoned by calls from the District emergency phone service or the local Police and Fire Departments.

The District has assembled an inventory of equipment and spare parts, and maintains key vehicles in a “ready to respond” condition. The District also has arrangements with vendors for emergency backhoe and underground work, in the event there is more damage than the District’s staff can manage. Crews would assemble at the District Office and be taken to the emergency work site by District personnel who would also be responsible for operating the valves to isolate the break and oversee the emergency repair work.

### **Response**

The goal of the District’s post disaster response actions is to maintain the water transmission and storage system intact and operational to the greatest extent possible. Emergency response protocols specify the leadership role of the on-call worker if the emergency occurs off-hours. The response plan is very specific with regard to operating protocols for the supply pumps and the monitoring of tank levels to ascertain the presence of significant leaks or pipeline breaks.

The repair or shut down work would be coordinated from the District Office and field crews would report progress to the emergency operations team. Regular progress reports would then be filed with the appropriate Police and/or Fire Department personnel.

### **6.3.2. Staged Response Plan**

The District has in the past, and will continue in the future, to respond to water supply shortages on an individual basis as they develop. Generally, for droughts or any other long-term water supply shortage, the District implements a program of water conservation measures that will result in use restrictions proportional to the severity of the reductions needed. In the past, such use restrictions have been associated with droughts. Although the circumstances surrounding future droughts (or any other long-term supply shortages) may not be identical to the droughts that the District has faced in the past thirty-five years, the programs of voluntary and mandatory rationing developed in response to the increasingly severe actual or potential shortages in 1977-79 provide the District with its model for planning future responses to severe water shortages.

Table 21 outlines the four stages of rationing for water supply shortages of up to 50%. Stage 1 consists of voluntary measures and is an extension of the District’s ongoing education and financial incentive programs to encourage water conservation. Stage 2 requires mandatory rationing of agricultural water in addition to voluntary conservation of domestic water. Stages 3 and 4 require mandatory rationing of both domestic and agricultural water. Mandatory rationing of domestic customers has never occurred in the past because of water conserved through mandatory reductions in agricultural use. The priority of domestic water over agricultural water is a long standing policy in the District and has been successfully used during periods of reduced water supply without noticeable long term impact on the community. No new agricultural accounts will be accepted during Stages of 3 and 4. However, the Board has the discretion to limit new agricultural customers at any time when it is deemed necessary. No new

domestic accounts will be accepted during Stage 3 unless the parcel has been assessed for improvements through a legal process; but during Stage 4, no new domestic accounts will be accepted. Potable water for street washing never occurs in the District's service area because there is no public entity to provide such a service.

**Table 21 - Water Shortage Program Staged Response**

	Stage One	Stage Two	Stage Three	Stage Four
Type of Program				
Domestic Agricultural	Voluntary Voluntary	Voluntary Mandatory	Mandatory Mandatory	Mandatory Mandatory
Conservation Goal	15%	16% - 25%	26% - 35%	36 - 50%
District Actions	<ul style="list-style-type: none"> <li>Initiate informational campaign</li> <li>District Board has discretion to prohibit new agricultural accounts.</li> </ul>	<ul style="list-style-type: none"> <li>Establish allocations</li> <li>Ban wasteful water uses</li> <li>Intensify leak detection</li> <li>Intensify public education</li> <li>District Board has discretion to prohibit new agricultural accounts</li> </ul>	<ul style="list-style-type: none"> <li>Establish more stringent allocations</li> <li>Require retrofits prior to review of hardship exemptions</li> <li>Increase rates</li> <li>District Board has discretion to prohibit new agricultural accounts</li> <li>District Board has discretion to limit new domestic connections</li> </ul>	<ul style="list-style-type: none"> <li>Reduce allocations further</li> <li>Monitor use weekly, if necessary</li> <li>End deliveries to landscape meters</li> <li>Prohibit new agricultural connections</li> <li>District Board has discretion to prohibit new domestic connections</li> </ul>
Customer Actions	<ul style="list-style-type: none"> <li>Reduce water consumption</li> </ul>	<ul style="list-style-type: none"> <li>Further reduce use</li> <li>Comply with water waste ordinance</li> </ul>	<ul style="list-style-type: none"> <li>Conform with allocations</li> <li>Comply with landscape irrigation restrictions</li> </ul>	<ul style="list-style-type: none"> <li>Conform with allocations</li> <li>Monitor usage weekly or daily</li> <li>No new landscaping</li> </ul>
Penalties	<ul style="list-style-type: none"> <li>Education visit</li> </ul>	<ul style="list-style-type: none"> <li>Excess use charges</li> <li>Citations</li> <li>Flow restriction</li> <li>Shutoff</li> </ul>	<ul style="list-style-type: none"> <li>Excess use charges</li> <li>Citations</li> <li>Flow restriction</li> <li>Shutoff</li> </ul>	<ul style="list-style-type: none"> <li>Excess use charges</li> <li>Citations</li> <li>Flow restriction</li> <li>Shutoff</li> </ul>

Table 22 presents examples of domestic water conservation methods that can be applied at each stage of the water supply shortage response.

**Table 22 - Domestic Water Conservation Methods**

Potential Water Conservation Methods	Stage When Method Takes Effect
Demand reduction program	1
Voluntary rationing	1
Incentives to reduce water consumption	1
Education Program	1
Percentage reduction by customer type	1
Use prohibitions	2
Plumbing fixture replacement	2
Mandatory rationing	2
Flow restriction	3
Restrict for only priority uses	3
Water shortage pricing	3
Reduce pressure in water lines	4
Restrict building permits	4
Per capita allotment by customer type	4

Historically, the amount of reservoir storage on April 15<sup>th</sup> has triggered rationing programs ranging from a voluntary to mandatory reduction goal for agricultural accounts of up to 50%. The reservoir levels in Table 23 present the trigger levels for the rationing stages and incorporate both supply and carry-over shortages. The reservoir level is automatically reviewed by the District Board of Directors in April prior to the release of irrigation water in May.

**Table 23 - Water Supply Staged Response Trigger Levels**

Stage	% Supply Shortage	Reservoir Level on 2 <sup>nd</sup> Tuesday in April
1	15 to 25%	17,000 AF
2	25 to 35%	15,000 AF
3	35 to 50%	13,000 AF
4	50% +	10,000 AF

### **6.3.3. Mandatory Provisions to Reduce Water Use**

The District adopted a “no waste” ordinance in 1982 which authorizes abatement procedures to curtail blatant water waste. According to the ordinance, the District may discontinue water service if such conditions are not corrected within five days after giving the customer written notice. If conditions warrant, the Board can enact more stringent measures to supplement the ordinance and will do what is required to ensure reasonable apportionment of water supplies during times of limited supply. The existing block rate schedule also provides the basis for penalizing excessive use. Additional tools for cases of flagrant waste include the installation of flow devices or termination of service.

### **6.3.4. Penalties or Charges for Excessive Use**

The District’s existing Ordinance 82-1, Section 7.5, allows for the District to discontinue service in the event the wasteful condition is not corrected within 5 days. Typically, the District charges \$25 for any violation of the ordinance. The District can establish penalties and charges above and beyond those that already exist as the water shortage stage increases.

### **6.3.5. Impacts on Revenue and Expenditures**

The District has reserves established to respond to water shortage situations. Revenues are not expected to fluctuate significantly during a water shortage. Implementation of any stage of water rationing will not affect the minimum meter charge even though water usage will be reduced. The percentage increase in the increasing block rate schedule should be sufficient to compensate for the reduction in water sold. There will be no change in water cost to the District since the sole source of supply at this time is Stumpy Meadows Reservoir.

### **6.3.6. Mechanism for Monitoring Water Use**

Since 99.8% of all Georgetown Divide Public Utility District customers are metered and the sources of supply are metered, the District is able to measure the effectiveness of any water shortage contingency plan that is implemented. The District collects sufficient data, in the normal course of operations, to determine actual reductions in sales, by user category, as compared to a given base year.

#### **Normal Monitoring Procedure**

In normal water supply conditions, production figures are recorded daily. Totals are reported monthly to the Operations Manager and incorporated into the water supply report.

#### **Stage 1 and 2 Water Shortages**

During a Stage 1 or 2 water shortage, daily production figures are reported to the Water Treatment Plant Supervisor. The Supervisor compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are then forwarded to the Operations Manager. Monthly reports are sent to the General Manager. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

#### **Stage 3 and 4 Water Shortages**

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the addition of a daily production report to the Operations Manager.

#### **Disaster Shortage**

During a disaster shortage, production figures will be reported to the Operations Manager hourly, and to the General Manager daily. Reports will also be provided to the Board of Directors and the El Dorado County Office of Emergency Services as necessary.

## **6.4. Water Quality Impacts on Reliability**

The existing water quality of the District's surface water source continues to be excellent and therefore does not and should not affect the supply reliability between now and 2030. The District's 2010 Consumer Confidence Report is included in Appendix F. Stumpy Meadows Reservoir is a 20,000-acre reservoir located at an elevation of 4,262 feet. The Pilot Creek basin watershed supplying the Stumpy Meadows Reservoir is approximately 15.1 square miles in size, ranging in elevation from 4,170 ft. to 6,190 ft. Land uses within the watershed area located above the Walton Lake Water Treatment Plant are predominately forested, undeveloped and low density residential. Public access is very limited and much of the watershed is gated and locked.

## 7.0 Demand Management Measures

### 7.1. Introduction

The ethic of water conservation is a fundamental component of policy and operation at Georgetown Divide Public Utility District. As our Gold Rush era water system has evolved to meet the challenging needs and demands of the people it serves, the District is committed to promoting conservation and maximizing operational efficiency.

Demand Management Measures (DMMs) are mechanisms a water supplier can use to increase water conservation. Assembly Bill AB 1420 requires the implementation of 14 DMMs by water suppliers to be eligible for water grants or loans. The District has already implemented 11 of these DMMs. The remaining 3 DMMs do not apply to the District or are not economically feasible. Table 24 summarizes the DMMs and the District's implementation status. The remainder of this Section provides a detailed description of each DMM.

The Board of Directors will maintain full flexibility in funding the various water conservation programs listed in Table 24. As required by State law, the entire urban water management plan will be reviewed after five years.

**Table 24 - District's DMM Implementation Status**

DMM	DMM Description	Implemented?
A	Water Survey Programs for Single-Family and Multi-Family Residential Customers	Yes
B	Residential Plumbing Retrofits	Yes
C	System Audits, Leak Detection and Repair	Yes
D	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	Yes
E	Large Landscape Conservation Programs and Incentives	Yes
F	High-Efficiency Washing Machine Rebate Programs	No <sup>(1)</sup>
G	Public Information Programs	Yes
H	School Education Programs	Yes
I	Conservation Programs for Commercial, Industrial, and Institutional Accounts	Yes
J	Wholesale Agency Assistance Programs	No <sup>(2)</sup>
K	Conservation Pricing	Yes
L	Water Conservation Coordinator	Yes
M	Water Waste Prohibition	Yes
N	Residential Ultra-Low-Flush Toilet Replacement Programs	No <sup>(1)</sup>
(1) Implementation not economically feasible.		
(2) Implementation not applicable to District.		

### 7.2. Value of Water

To assess the benefits of the water conservation measures discussed below, the cost of treated water must be considered. In 2008, the District evaluated fiscal year 2007 costs to determine the cost of treated water. Table 25 presents a summary of the District's cost for treated water. Any cost-benefit analysis used to evaluate the economic feasibility of a DMM will use \$5.31 per 1,000 gallons as the value of water.

**Table 25 - Cost of Treated Water, 2007**

Description	Allocation Basis	Cost
Source of Supply	28% of total consumption	\$ 105,852
Transmission and Distribution – Raw Water	28% of total consumption	\$ 208,521
Water Treatment	Total cost	\$ 1,973,249
Transmission and Distribution – Treated Water	Total cost	\$ 732,911
Customer Service	90% of total accounts	\$ 264,226
<b>Total Treated Water Cost</b>		<b>\$ 3,284,759</b>
Acre-feet Treated Water Delivered in 2007		1,900 AF
Number of Treated Water Customers on June 30, 2007		3,565
<b>Treated Water Cost per 1,000 gallons</b>		<b>\$5.31 per 1,000 gallons</b>

### 7.3. DMM Implementation Status

#### 7.3.1. DMM A – Residential Water Survey Program

##### Description

The District continually monitors customer usage in a proactive manner so that when usage trends higher, the customer can be notified. To accomplish this, the District's customer service staff performs regular analysis of customer water usage from meter data during each bimonthly billing cycle. The District's meter readers and billing clerks have been trained to check for unusual changes in water consumption by comparing past water usage with the current billing data when it is being collected or processed. Customers are notified by phone of any apparent anomalies and are offered assistance from District staff in checking for potential causes of the identified increases in water use. Customers are also offered water conservation kits that include faucet and showerhead flow restrictors, toilet displacement devices, and toilet leak tablets. These calls are logged and forwarded to the District's Water Conservation Coordinator.

In addition, the District Board enacted a leakage consideration policy in the 1980s to provide financial incentive to customers for prompt leak repairs. The policy is based on compassion for the customer, prompt repair of major leaks and payment for the chemicals and electricity to treat the water that was lost due to leakage. To qualify for leakage consideration, customers must repair the leak within 2 weeks of notification. District staff estimate the expected usage based upon the same billing cycle during the previous year to determine the amount of water lost due to leakage. Water use due to leakage beyond the expected usage is billed at a reduced rate of \$2.25 per 1,000 cubic feet – as opposed to the current top tier rate of \$2.21 per 100 cubic feet. Note that only one consideration may be granted to a customer every 10 years.

##### Effectiveness of DMM

Effectiveness of these surveys is measured by a customer's water usage reported in meter readings. The District continues to monitor customer usage following the initial contact to ensure that corrective actions were effective.

Per the California Urban Water Conservation Council (CUWCC), water conservation from this DMM is estimated to be 20 gallons per day for each customer contacted. On average, the District contacts 15 residential customers each bimonthly billing cycle for an estimated savings of 0.7 million gallons per year. This savings is equivalent to about 0.1% of the District's average daily water production or 0.3 gpcd.

Regardless of the savings, operations personnel have visited many residences and businesses regarding the increased water use. Numerous malfunctioning toilets, faucets and irrigation devices are discovered and repaired annually as a result of this program.

### **Schedule**

This program is an historical program that has been used for the past 20 years. Considering the positive results of the existing program, the Georgetown Divide Public Utility District will continue to focus its water conservation work on efforts to contact high consumption residential users and assist them with reducing their water use. The District will continue to aggressively respond to all customer concerns regarding leaks and unusually high water usage.

### **Cost Benefit Analysis**

Per the CUWCC, the residential water survey program should provide site-specific leak detection assistance along with a water conservation survey, water efficiency suggestions, and on-site inspection. The District does not believe that the additional cost of this level of implementation is beneficial.

As stated above, the water savings from a residential water survey program are about 20 gallons per day for each survey performed. Assuming that 3% (about 20 per bimonthly billing cycle) of the residential users in the District's service area were surveyed each year for the next 9 years, this would result in a total of nearly 1,100 surveys being performed. The total water savings after 9 years would be about 22,000 gallons per day or 0.2 gpcd. At the District's cost to treat water of \$5.31 per 1,000 gallons, the "benefit" of this DMM is about \$43,000 per year after 9 years of implementation. This is equivalent to a benefit of \$39 per survey per year.

The District's costs to implement this DMM would include one-time costs to plan and develop the survey program and ongoing costs for performing the residential surveys. Table 26 presents a summary of these costs. Note that the CUWCC estimates the cost of implementing this DMM at \$40 to \$200 per survey. Due to the District's small size, it should be expected that the cost per survey should be at the high end of this range.

**Table 26 - Cost Benefit Analysis for Residential Water Survey Program**

<b>DMM Implementation</b>	<b>District Cost</b>	<b>Annual Cost</b>	<b>Cost per Survey</b>
Program Setup (100 hrs @ \$90/hr)	\$ 9,000	\$ 1,000	\$ 10
Survey (1.5 hr/survey @ \$50/hr)	\$162,000	\$ 18,000	\$ 150
<b>Total Cost Per Survey Performed</b>			<b>\$ 160</b>

This best management practice, per the CUWCC, requires annual surveys of at least 1.5% of the District's residential customers. The District's current practices contact twice as many customers each year.

Comparing the cost to implement the DMM and the benefits in terms of water cost savings, the costs outweigh the benefits by a factor of 4. Therefore, any additional effort toward implementation of this DMM is not economically practical.

### **7.3.2. DMM B – Residential Plumbing Retrofit**

#### **Description**

Since 1992, all new and replacement plumbing fixtures sold in the state have been required to comply with applicable water conservation specifications. In 1991, the District's service area included about 2,400 residential customers.

The District's implementation of this DMM includes the distribution of water conservation kits free of charge to all customers. These water conservation kits included high-quality, 2.5 gpm or less showerheads, 2.2 gpm or less faucet aerators, toilet displacement devices and toilet tank leak detection tablets. Installation instructions and water conservation literature are included in each kit. Water conservation kits are available at the District's office upon request. Kits are offered directly to residential customers during the residential water survey (DMM A).

The water conservation kits are targeted for distribution to the 2,400 pre-1992 residential customers. This program is publicized in the District's Consumer Confidence Report that is distributed to each customer each year.

#### **Effectiveness of DMM**

Effectiveness of these water conservation kits on residential water use is difficult to quantify. Since 2006, the District has distributed 50 water conservation kits to its customers.

Per the CUWCC, water conservation from this DMM is estimated to be 12 gallons per day for each water conservation kit installed. Based on the number of kits distributed to date, this DMM has generated an estimated savings of 219,000 gallons per year. This savings is equivalent to less than 0.1% of the District's average daily water production or less than 0.1 gpcd.

#### **Schedule**

This program has been implemented since 2006. Considering the positive results of the existing program, the District will increase its efforts to advertise the availability of the water conservation kits in the annual Consumer Confidence Report.

### **7.3.3. DMM C – System Water Audits, Leak Detection and Repair**

#### **Description**

The District conducts water audits at each billing cycle to determine the annual amount of un-metered water. Un-metered water is the difference between total water sales and total water production. Un-metered water includes both authorized and unauthorized uses. Authorized uses include water for un-metered water connections, fire-fighting and training, hydrant flushing, backwash water, construction water and other miscellaneous uses. Unauthorized uses include pipeline leaks, water meter inaccuracy, tank overflows, and stolen water. This un-metered, unauthorized use is classified as unaccounted-for water.

The District modified their billing software in 2011 to include residential (both single and multi-family), commercial, large landscape, and governmental/institutional. This will allow the District to track the water use for each individual sector in the future.



The District actively implements programs to reduce losses in both the treated and untreated water conveyance systems. The District's Board of Directors has approved a capital improvement program to assist in funding replacement of aging and inefficient facilities.

The District repairs all leaks in the distribution system as quickly as possible after they are detected. Even minor leaks are reported by the meter readers and are investigated and repairs are made.

Leak detection and pipe replacement are fundamental to the operation of the treated water system. Remote sensing at the storage tanks accelerates response capability and minimizes losses when leaks occur. Areas of recurring leakage are targeted for pipe replacement projects.

In addition, the District calibrates and/or replaces water meters when they are no longer operating within normal parameters. The purpose of this work is to a) enhance revenue by ensuring payment for all water sold, b) encourage conservation by ensuring that customers pay for all water delivered, and c) increase the agency's ability to account for its distributed water.

The District has also developed a water system pressure control program to reduce pressure and thereby reduce water use. The District operates with 8 pressure zones and forty-nine (49) pressure reducing stations at locations throughout the District's service area so as to reduce high static pressure in its system and at individual water connections. In addition, the District recommends customers install a pressure reducing valve on their service connection if the District's pressure at that location exceeds 60 psi. Pressure management is particularly important for the District because of the topographic variations in the service area. Reduced pressure helps conserve water by reducing flow through fixtures, which limits quantities lost when fixtures leak or when water is inefficiently applied.

Although not required by this UWMP, loss reduction in the raw water conveyance system is another major focus of the District's maintenance program. The annual budget routinely includes funding for a rehabilitation program of the raw water conveyance system. Over the years, sections of the ditch system have been replaced with pipeline and unlined ditches have been gunited, thus significantly reducing seepage losses from the ditch system. Over 20% of the untreated water conveyance system, which is in large part Gold Rush vintage, is now in pipe or concrete-lined ditch. When repairs are made to the raw water conveyance system, pipe is used whenever possible to reduce losses and avoid the maintenance requirements of ditches.

### **Effectiveness of DMM**

The system audits are used to evaluate the effectiveness of the District's leak detection and repair program. The District's unaccounted-for water volume between 1999 and 2008 was about 2% of the overall treated water production. In addition, the unaccounted-for water volumes have not been higher than 3% in any recent year.

The CUWCC's best management practice for leak detection requires system audits when water losses (unaccounted-for water) exceed roughly 10% of an agency's total water production (the trigger is actually based on a more complicated scoring system from the American Water Works Association's Water Loss Audit software). Since the District typically operates with water losses

of 2%, the District's water savings from implementation of this DMM are estimated at 8% of their total water production or about 15 gpcd.

Note that these water use savings were achieved prior to 2005 and future savings from this DMM will be minimal. However, continued implementation of this DMM is required to maintain the current level of water conservation.

#### **Schedule**

This DMM was implemented prior to 2005. The District will continue its vigilance in reducing water losses with on-going programs to repair pipeline leaks as soon as they are discovered, replace old, less reliable pipelines, and upgrade older, potentially inaccurate, water meters.

### **7.3.4. DMM D – Metering with Commodity Rates**

#### **Description**

Almost all (99.8%) of the District's domestic water connections are metered and all water is billed volumetrically. The District began installing water meters in 1961. Since 1982, treated water has been billed on an inclining block rate structure where the unit cost increases with the amount used, which penalizes inefficient water usage. The current rate structure is presented in DMM K.

The District currently has 15 unmetered connections. Most of these historical connections are along Main Street in Georgetown, where modification of the existing service for meter installation is difficult.

#### **Effectiveness of DMM**

The primary tool in promoting water conservation is the water meter. When there is a direct correlation between amount of water used and cost, people become aware and accountable, finding their own ways to conserve water. This practice is recognized as a sound urban water management practice.

The District's metering and rate structure has effectively promoted water conservation. Residential only water use in the District's service area averages approximately 158 gallons per person per day, much lower than the statewide average of 196 gallons per person per day (Source: California Urban Water Conservation Council, 2001-02 statewide mean).

Per the CUWCC, the water savings generated by the installation of water meters is about 25% of the total water use. For the District, these savings are equivalent to 400,000 gallons per day or about 40 gpcd. Note that the water use savings due to meter installation were achieved more than 30 years ago and future savings from this DMM will be minimal. However, continued implementation of this DMM is required to maintain the current level of water conservation.

#### **Schedule**

The District began implementation of this DMM prior to 2005. There are 15 older connections that are not metered, which represents approximately 0.2% of the total domestic accounts. It is anticipated that these connections will be retrofitted with meters by 2020 where practical and/or feasible.

### **7.3.5. DMM E – Large Landscape Conservation Programs and Incentives**

#### **Description**

The District currently has several customers that could be considered large landscape domestic water users (four schools, two cemeteries and one nine-hole golf course). The District works with these domestic water users to identify conservation measures which would improve the irrigation efficiency of their landscaped areas. The District continues to provide economic incentives to customers through its rate structure to improve irrigation efficiency and conserve water.

All large landscape customers have dedicated meters and can monitor their irrigation usage. These meters improve efficiency and promote conservation by providing customers with detailed information on the water used to irrigate their property.

The District supported the modernization of the Auburn Lake Trails Property Owners Association golf course irrigation system. The Property Owners Association invested significant funds to modernize the irrigation system for the golf course. This system has resulted in a 50% decrease in water use between 2007 and 2010.

Two evaporation/weather stations were established with the support and cooperation of the Department of Water Resources and the Georgetown Divide Resource Conservation District. To promote water conservation through efficient application of irrigation water, the District publishes weather data in local newspapers weekly during the irrigation season. District staff is trained to assist in defining soil type, water holding capacity, and efficient irrigation scheduling for customers. The Conservation District has sponsored demonstrations and newspaper articles concerning development of effective irrigation schedules by using weather and soils data. In addition to the District's efforts, the El Dorado County Water Agency sponsors assistance to irrigators to insure optimal irrigation efficiency.

#### **Effectiveness of DMM**

Effectiveness is monitored by tracking the District's large landscape irrigation customer's water usage.

Between 2007 and 2010, water use has dropped by nearly 50% for these large users. This represents a water savings of about 37,000 gallons per day or about 4 gpcd. The current program that is in place is very flexible and has proven to be very effective.

#### **Schedule**

The District implemented this program in 2005.

The District will continue to work with its large landscape domestic customers to support all efforts to improve efficiency and encourage conservation. This small customer base (total of seven customers), allows the District to custom tailor a conservation program specific to its customer's needs and has been extremely effective in reducing water use for these purposes.

### 7.3.6. DMM F – High-Efficiency Washing Machine Rebate

#### **Description**

This DMM addresses the use of water-efficient washing machines to decrease water consumption. The District has already addressed this issue by providing economic incentives to reduce water consumption. The District's metering and rate structure provides incentive to conserve water and has proven to be successful.

Implementation of this DMM would require the District to offer financial incentives for the purchase of high-efficiency washing machines that use 40% less water per load. Costs to the District would include one-time costs to plan and develop the rebate program and ongoing costs for the advertising, administration, and the rebate itself.

#### **Cost Benefit Analysis**

Per the CUWCC, the water savings from the installation of a high-efficiency washing machine is about 100 gallons per week for each unit installed. Assuming that 1.5% of the residential users in the District's service area used the program each year for the next 9 years, this would result in a total of 450 high-efficiency washing machines being installed. The total water savings after 9 years would be approximately 6,500 gallons per day or 0.7 gpcd. At the District's cost to treat water of \$5.31 per 1,000 gallons, the "benefit" of this DMM is about \$13,000 per year after 9 years of implementation. This is equivalent to a benefit of \$29 per unit per year.

The District's costs to implement this DMM would include one-time costs to plan and develop the rebate program and ongoing costs for the advertising, administration, and the rebate itself. Table 27 presents a summary of these costs. Note that the CUWCC estimates the cost of implementing this DMM at \$400 to \$1,000 per unit. Due to the District's small size, it should be expected that the cost per unit should be at the high end of this range.

**Table 27 - Cost Benefit Analysis for High Efficiency Washing Machine Program**

<b>DMM Implementation</b>	<b>District Cost</b>	<b>Annual Cost</b>	<b>Cost per Unit Installed</b>
Rebate Program Setup (100 hrs @ \$90/hr)	\$ 9,000	\$ 1,000	\$ 20
Rebate (\$200 per unit)	\$ 10,000	\$ 10,000	\$ 200
Administration (4 hrs/wk @ \$50/hr)	\$ 10,000	\$ 10,000	\$ 200
Advertising (\$500 expenses per month)	\$ 6,000	\$ 6,000	\$ 120
<b>Total Cost Per Unit Installed</b>			<b>\$ 710</b>

Comparing the cost to implement the DMM and the benefits in terms of water cost savings, the costs outweigh the benefits by a factor of 24.

#### **Schedule**

Based on the high cost to benefit ratio for this DMM, the District will not implement the high-efficiency washing machine rebate program at this time. The District's small staff and limited financial resources are too constrained to plan, develop and administer a program for washing

machine rebates and the potential benefits are not high enough to warrant the investment that would be required.

### **7.3.7. DMM G – Public Information Program**

#### **Description**

The District has an on-going public information program and has conducted community outreach and public education activities. In the late 1970's and early 1980's the public information program efforts were aimed at motivating people to respond to the specific drought emergencies that were occurring, while in recent years the public information efforts have focused on general water conservation and wise water use.

The District's public information includes the following:

**Presentations:** District personnel speak at local schools, at local service clubs, neighborhood association meetings, etc. and are available to speak when requested. Additionally, District staff has conducted public tours at the water treatment plant facilities.

**Brochures and Flyers:** The District prepares and mails newsletters to all customers on an annual basis in conjunction with the annual consumer confidence report. The newsletters include articles and information on water conservation issues. In addition, the District has provided information on water conservation topics for inclusion in the Auburn Lake Trails "Trail Views" newsletter.

Water conservation messages are also routinely included in District communications with customers questioning bills or raising other related questions.

Water conservation flyers and brochures are kept at the reception desk in the District Office and made available to interested customers coming to pay bills or make inquiries.

In the event of a drought or pending drought the District uses general mailings, separate from the bimonthly billings, to announce water conservation programs to appeal to customers to reduce their water consumption. These efforts are supported with stepped-up public information initiatives using a variety of local media outlets.

The District has purchased and developed a number of pamphlets, flyers and information sheets containing water conservation information. These are available at the District office or can be mailed upon request. Appendix G presents several examples of the materials available to the District's customers. The following is a partial list of the brochures and leaflets that are currently available from the District:

- Homeowner's Guide to Onsite Sewage Disposal Systems (includes water conservation tips)
- California Water Facts – Conservation booklet
- El Dorado County Xeriscape Handbook – Introduction to drought tolerant gardens and landscaping

**Usage Information:** The District includes usage information on customer bills so that the customer can see how much water was used during the billing cycle.

**Press Releases:** Mandatory water conservation programs implemented by the District are announced with articles in local newspapers. In the event of a future drought, the District will again implement an active public relations effort to reinforce the need for active citizen participation in the conservation effort.

### **DMM Effectiveness**

The District tracks the feedback regarding the information provided to the public. The District has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

### **Schedule**

The District implemented this DMM prior to 2005. The District will continue to provide public information services and materials to remind the public about water conservation and other water resource issues.

## **7.3.8. DMM H – School Education Program**

### **Description**

As part of the District's public information program, District personnel speak at schools to promote conscientious use of water resources. The District participates in school programs to the extent that staffing levels will allow. Presentations have been given each year to the local elementary schools. Additionally, District staff have conducted field trips at the water treatment plant facilities and assisted students with special projects involving water resources.

### **Effectiveness of DMM**

The District tracks the feedback regarding the school presentations. The District has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

### **Schedule**

The District implemented this DMM prior to 2005. The District will continue to provide school education services to remind the students about water conservation and other water resource issues.

## **7.3.9. DMM I – Commercial, Industrial, and Institutional (CII) Conservation Programs**

### **Description**

The District has 141 commercial accounts as of 2010. There are no industrial or institutional accounts. In total, these customers account for about 14% of total water sales by volume. Most of the customers in this billing category are small retail businesses.

The District continually monitors commercial account usage in a proactive manner so that when usage trends higher, the customer can be notified. To accomplish this, the District's customer service staff performs regular analysis of customer water usage from meter data each bimonthly billing cycle. The District's meter readers and billing clerks have been trained to check for unusual changes in water consumption by comparing past water usage with the current billing data when it is being collected or processed. Customers are notified by phone of any apparent

anomalies and are offered assistance from District staff in checking for potential causes of the identified increases in water use. These calls are logged and forwarded to the District's Water Conservation Coordinator.

### **Effectiveness of DMM**

Effectiveness of this program is measured by a customer's water usage reported in meter readings. The District continues to monitor customer usage following the initial contact to ensure that corrective actions were effective.

Per the California Urban Water Conservation Council (CUWCC), water conservation from this DMM is estimated to be 20% for each customer contacted. On average, the District contacts 3 commercial customers each bimonthly billing cycle for an estimated savings of 4,200 gallons per day. This savings is equivalent to about 0.3% of the District's average daily water production or 0.5 gpcd.

Regardless of the savings, operations personnel have visited many businesses regarding the increased water use. Numerous malfunctioning toilets, faucets and irrigation devices are discovered and repaired annually as a result of this program.

### **Schedule**

This is an historical program that has been in place for more than 20 years. Considering the results of the existing program, the District will continue to focus its water conservation work on efforts to contact high consumption commercial users and assist them with reducing their water use. The District will continue to aggressively respond to all customer concerns regarding leaks and unusually high water usage.

### **Cost Benefit Analysis**

Per the CUWCC, the CII conservation program should provide site-specific assistance including conservation measures such as installation of high efficiency toilets, dishwashers, ice machines, and washing machines. The District does not believe that the additional cost of this level of implementation is beneficial.

As stated above, the water savings from a CII conservation program are about 20% for each customer contacted. Assuming that the CUWCC required 1% of the commercial users in the District's service area were surveyed each year for the next 9 years, this would result in a total of 14 surveys being performed. The total water savings after 9 years would be about 5,000 gallons per day or 0.5 gpcd. At the District's cost to treat water of \$5.31 per 1,000 gallons, the "benefit" of this DMM is about \$10,000 per year after 9 years of implementation. This is equivalent to a benefit of \$700 per survey per year.

The District's costs to implement this DMM would include one-time costs to plan and develop the survey program and ongoing costs for the performing the CII surveys. Table 28 presents a summary of these costs. Note that the CUWCC estimates the cost of implementing this DMM at \$600 to \$8,000 per survey. Due to the District's small size, it should be expected that the cost per survey should be at the high end of this range.

**Table 28 - Cost Benefit Analysis for CII Water Conservation Program**

<b>DMM Implementation</b>	<b>District Cost</b>	<b>Annual Cost</b>	<b>Cost per Survey</b>
Program Setup (100 hrs @ \$90/hr)	\$ 9,000	\$ 1,000	\$ 640
Survey (24 hrs/survey @ \$50/hr)	\$ 16,800	\$ 1,200	\$ 1,200
<b>Total Cost Per Survey Performed</b>			<b>\$ 1,840</b>

This best management practice per the CUWCC requires annual surveys of at least 1% of the District's residential customers. The District's current practices contact nearly four times as many customers each year.

Comparing the cost to implement the DMM and the benefits in terms of water cost savings, the costs outweigh the benefits by a factor of nearly 3. Therefore, any additional effort toward implementation of this DMM is not economically practical.

#### **7.3.10. DMM J – Wholesale Agency Programs**

The District is not a wholesale provider of water. Therefore, this DMM does not apply to the District and will not be implemented.

#### **7.3.11. DMM K – Conservation Pricing**

##### **Description**

Almost all (99.8%) of the District's domestic water connections are metered and the water is billed volumetrically. Since 1982, treated water has been billed on an inclining block rate structure where the unit cost increases with the amount used, which penalizes inefficient water usage.

In 2008, the District implemented a new water rate structure with increases in 2009 through 2011. The previous rate structure had been in place since July 1, 2006. The current minimum bi-monthly charges for domestic water are \$47.14 (residential) and \$50.32 (commercial) for water consumption up to 2,000 cubic feet (cf). Additional water beyond 2,000 cf is billed as follows:

- 2,001-4,000 cf: \$1.38 per 100 cf
- 4,001-6,000 cf: \$1.65 per 100 cf
- 6,001- 8000: \$1.93 per 100 cf
- 8,001 and up: \$2.21 per 100 cf

##### **Effectiveness of DMM**

The primary tool in promoting water conservation is the water meter. When there is a direct correlation between amount of water used and cost, people become aware and accountable, finding their own ways to conserve water. This practice is recognized as a sound urban water management practice.



The District's previous rate structures have effectively promoted water conservation. Residential water use in the District's service area averages approximately 158 gallons per person per day, much lower than the statewide average of 196 gallons per person per day (Source: California Urban Water Conservation Council, 2001-02 statewide mean).

Per the CUWCC, the water savings generated by implementation of commodity rates are estimated to be 10% to 50% of the increase in water rate for the average customer (e.g. a 10% water rate increase would generate 1% to 5% in water savings). Assuming a 30% savings, the District's 2008 water rate increase should generate water savings of 7% of the residential use and 20% of the commercial use. This is equivalent to about 140,000 gallons per day or 17 gpcd.

#### **Schedule**

The District began implementation of this DMM prior to 2005. Water meters were installed in the District's service area in the 1960's and an inclining block rate schedule has been in place since 1982.

The current rate structure was adopted in 2008 and implemented over three years (2009 – 2011). The District has no plans to increase rates further to promote water conservation.

#### **7.3.12. DMM L – Conservation Coordinator**

##### **Description**

The District has a very small staff. Over the past five years the Water Quality Division Operations Manager has taken on the responsibilities for a variety of water conservation related duties. As such, the Water Quality Division Operations Manager is the *de facto* Conservation Coordinator. The District's Conservation Coordinator coordinates and oversees all water conservation programs for the District.

##### **Effectiveness of DMM**

The District has no method to quantify the savings provided by this DMM but believes that this coordination and oversight effort is critical to the District's water conservation efforts.

##### **Schedule**

The District implemented this DMM in 2005. The District will continue to support the role of a water conservation coordinator to oversee its water conservation efforts.

#### **7.3.13. DMM M – Water Waste Prohibition**

##### **Description**

In response to the drought years of 1976-1977, the District Board of Directors passed an ordinance in 1982, which authorizes abatement procedures to curtail blatant water waste. According to the ordinance, the District may discontinue water service if such conditions are not corrected within five days after giving the customer written notice. If conditions warrant, the Board can enact more stringent measures to supplement the ordinance and will do what is required to ensure reasonable apportionment of water supplies during times of limited supply. A copy of this ordinance is provided in Appendix H.

### **Effectiveness of DMM**

The District has no method to quantify the savings provided by this DMM but believes that enforcement of this ordinance is critical to the District's water conservation efforts.

### **Schedule**

The District implemented this DMM prior to 2005. The District will continue enforce this ordinance to support the District's overall water conservation program.

#### **7.3.14. DMM N – Residential Ultra-Low-Flush Toilets Replacement Programs**

##### **Description**

El Dorado County provides a low flush toilet replacement program through the building permit process. The District adheres to this program and obtains results by requiring the replacement of inefficient toilets during remodel or new construction.

This DMM requires the replacement of existing high water-using toilets with ultra-low-flush (1.6 gallons or less) in single-family and multi-family residences. The replacement program can be in the form of rebates, distribution, or complete installation of ultra-low-flush toilets. Costs to the District to implement this DMM would include one-time costs to plan and develop the program and ongoing costs for the advertising, administration, and rebate/toilet/installation.

##### **Cost Benefit Analysis**

Per the CUWCC, the water savings from the installation of an ultra-low flush toilet are about 25 gallons per day for each residential unit installed. Assuming that 2.5% of the residential users in the District's service area used the program each year for the next 9 years, this would result in a total of 770 ultra-low-flush toilets being installed. The total water savings after 9 years would be about 19,250 gallons per day or 2.0 gpcd. At the District's cost to treat water of \$5.31 per 1,000 gallons, the "benefit" of this DMM is about \$38,000 per year after 9 years of implementation. This is equivalent to a benefit of \$50 per unit per year.

The District's costs to implement this DMM would include one-time costs to plan and develop the program and ongoing costs for the advertising, administration, and the rebate/distribution/installation. For purposes of this evaluation, a rebate program was used since it should have the lowest cost. Table 29 presents a summary of these costs. Note that the CUWCC estimates the cost of implementing this DMM at \$60 to \$230 per unit. Due to the District's small size, it should be expected that the cost per unit should be at the high end of this range.

**Table 29 - Cost Benefit Analysis for Ultra Low Flush Toilet Replacement Program**

<b>DMM Implementation</b>	<b>District Cost</b>	<b>Annual Cost</b>	<b>Cost per Unit Installed</b>
Rebate Program Setup (100 hrs @ \$90/hr)	\$ 9,000	\$ 1,000	\$ 10
Rebate (\$75 per unit)	\$ 57,750	\$ 6,400	\$ 75
Administration (4 hrs/wk @ \$50/hr)	\$ 10,000	\$ 10,000	\$ 115
Advertising (\$500 expenses per month)	\$ 6,000	\$ 6,000	\$ 70
<b>Total Cost Per Unit Installed</b>			<b>\$ 270</b>

Comparing the cost to implement the DMM and the benefits in terms of water cost savings, the costs outweigh the benefits by a factor of more than 5.

### **Schedule**

Based on the high cost to benefit ratio for this DMM, the District will not implement the ultra-low-flush toilet replacement program at this time. The District's small staff and limited financial resources are too constrained to plan, develop and administer a program for toilet replacement. In addition, the potential benefits are not high enough to warrant the investment that would be required.

## **Appendix A - Notice of Intent to Adopt UWMP to Coordinating Agencies**

**GEORGETOWN DIVIDE  
PUBLIC UTILITY DISTRICT**

P.O. BOX 4240  
GEORGETOWN, CALIFORNIA 95634

PHONE (530) 333-4356  
FAX (530) 333-9442

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*Sent via e-mail and U.S Postal Service*

May 5, 2011

Roger Trout  
Director, Development Services Department  
El Dorado County  
2850 Fairlane Court, Building C  
Placerville, CA 95667

Subject: Georgetown Divide Public Utility District 2010 UWMP Notice

Mr. Trout,

The Georgetown Divide Public Utility District is preparing its 2010 Urban Water Management Plan (UWMP). The UWMP is required to be submitted to the California Department of Water Resources every five years per water code 10610-10657. The law requires a water agency to notify the county in which it serves water that it will be updating its UWMP. The District is updating the UWMP for 2010 and intends to present its findings at a public hearing scheduled for July 12, 2011.

If you have any questions or comments please contact me at (530) 333-4356.

Sincerely,

*Rebecca Siren*

Rebecca Siren  
Operations Manager, Water Quality Division  
Georgetown Divide Public Utility District  
6425 Main St  
PO Box 4240  
Georgetown, CA 95634

cc: Peterson, Brustad, Inc.

**GEORGETOWN DIVIDE  
PUBLIC UTILITY DISTRICT**

P.O. BOX 4240  
GEORGETOWN, CALIFORNIA 95634

PHONE (530) 333-4356  
FAX (530) 333-9442

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*Sent via e-mail and U.S Postal Service*

May 12, 2011  
Dave Eggerton, General Manager  
El Dorado County Water Agency  
3932 Ponderosa Road, Suite 200  
Shingle Springs, CA 95682

Subject: Georgetown Divide Public Utility District 2010 UWMP Notice

Dear Mr. Eggerton,

The Georgetown Divide Public Utility District is preparing its 2010 Urban Water Management Plan (UWMP). The UWMP is required to be submitted to the California Department of Water Resources every five years per water code 10610-10657. This letter is written to notify El Dorado County Water Agency that the District is updating the UWMP for 2010. The District intends to present its findings at a public hearing in July.

If you have any questions or comments please contact me at (530) 333-4356.

Sincerely,

*Rebecca Siren*

Rebecca Siren  
Operations Manager, Water Quality Division  
Georgetown Divide Public Utility District  
6425 Main St  
PO Box 4240  
Georgetown, CA 95634

cc: Peterson, Brustad, Inc.

## **Appendix B - Notice of Public Hearing**

**GEORGETOWN**  
**GAZETTE**  
**PROOF OF PUBLICATION**  
**(2015.5 C.C.P.)**

**Proof of Publication of:**

STATE OF CALIFORNIA

County of El Dorado

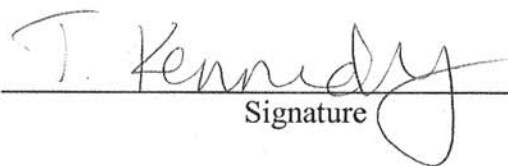
I am a citizen of the United States and a resident of the County aforesaid; I'm over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am a principal agent of and/or the publisher of the El Dorado Gazette, Georgetown Gazette & Town Crier, a newspaper of general circulation printed and published once each week in the town of Georgetown, Ponderosa Judicial District, County of El Dorado, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court to the County of El Dorado, State of California, under the date of April 3, 1970, Case Number 18589; that the notice, of which the attached is a printed copy (set in type no smaller than non-pareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

6/16, 6/23

All in the year 2011

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Placerville, California, this  
day of **June 23, 2011**

  
Signature

**NOTICE OF PUBLIC HEARING**  
**GEORGETOWN DIVIDE PUBLIC UTILITY**  
**DISTRICT BOARD OF DIRECTORS**

**URBAN WATER MANAGEMENT**  
**PLAN UPDATE**

NOTICE IS HEREBY GIVEN that the Board of Directors of the Georgetown Divide Public Utility District will hold, in conjunction with the formal adoption of an update to the District's Urban Water Management Plan, an opportunity for the community to provide input on the District's urban water use target for compliance with the SBx7-7, also known as the Water Conservation Bill of 2009, and the District's planned methods for meeting its urban water use target. The Urban Water Management Plan describes and specifies the proposed urban water use targets and is available for public review after June 17, 2011 at 6425 Main Street, Georgetown, CA, 95634, Monday through Friday (except legal holidays) between the hours of 7:45 a.m. and 4:30 p.m. or online at [www.gd-pud.org/publications/Studies & Reports](http://www.gd-pud.org/publications/Studies%20and%20Reports).

The public hearing will be held on July 12, 2011 at 6425 Main Street, Georgetown, California, at 9:00 a.m., at which time and place all interested persons shall have the opportunity to present their comments and concerns to the Board of Directors. Persons wishing to comment can do so either in writing or in person. Written comments should be addressed to the Georgetown Divide Public Utility District, P.O. Box 4240, Georgetown, CA, 95634.  
6/16, 6/23  
02533501



## **Appendix C - Resolution to Adopt the Urban Water Management Plan**

**2011-05**  
**RESOLUTION OF THE**  
**GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT**  
**TO ADOPT THE**  
**URBAN WATER MANAGEMENT PLAN**

**WHEREAS**, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

**WHEREAS**, the District is an urban supplier of water providing water to over 3,500 customers and a population over 9,400, and

**WHEREAS**, the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its plan which are indicated by the review; and

**WHEREAS**, the Plan must be prepared by July 1, 2011, and after public review and hearing, filed with the California Department of Water Resources within thirty days of adoption; and

**WHEREAS**, the District has therefore, prepared and circulated for public review the Urban Water Management Plan on June 17, 2011, and a properly noticed public hearing regarding said Plan was held by the District on July 12, 2011, and

**WHEREAS**, the District will update and file said Plan with the California Department of Water Resources by August 12, 2011;

**NOW THEREFORE**, be it hereby resolved as follows:

1. 2010 Urban Water Management Plan is hereby adopted and ordered filed with the District Clerk;
2. The General Manager is hereby authorized and directed to file the 2010 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date;
3. The General Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2010 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the District Board regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

4. In a water shortage, the General Manager is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicated in the Plan, and implement necessary elements of the Plan;

5. The General Manager shall recommend to the District Board of Directors additional regulations to carry out effective and equitable allocation of water resources.

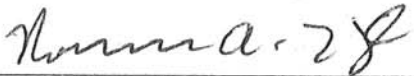
PASSED AND ADOPTED at a regular meeting of the Board of Directors of the GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT on the 12<sup>th</sup> day of July, 2011, by the following vote:

AYES: 5

NOES:

ABSENT:

ABSTAIN:

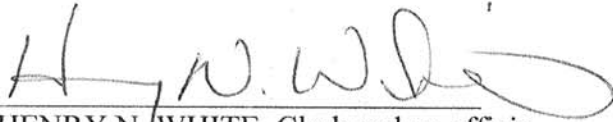


NORM KRIZL

President, Board of Directors

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

ATTEST:



HENRY N. WHITE, Clerk and ex officio

Secretary, Board of Directors

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

## **Appendix D - Completed DWR UWMP Checklist**

**Table I-2 Urban Water Management Plan checklist, organized by subject**

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Table 2
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Article 2.1, Appendix A
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Appendix C
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Article 2.4, Appendix D
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Article 2.2
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Article 2.2, Appendix B
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Article 2.2, Appendix C
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Article 2.3

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Article 2.3
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Article 2.4
<b>SYSTEM DESCRIPTION</b>				
8	Describe the water supplier service area.	10631(a)		Article 3.2
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Article 3.3, Article 3.4
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Article 3.5
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Table 5
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Article 3.6
<b>SYSTEM DEMANDS</b>				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Article 4.1, Article 4.2
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Article 4.3

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		N/A
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Tables 9, 10, 11, 12
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Article 4.5
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Article 4.6
<b>SYSTEM SUPPLIES</b>				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Table 15
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Article 5.2.1
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		N/A
16	Describe the groundwater basin.	10631(b)(2)		N/A
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		N/A

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Additional clarification	UWMP location
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		N/A
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		N/A
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		N/A
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	N/A
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Article 5.2.2
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Table 16
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Article 5.2.3
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Article 5.2.4
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Article 5.2.4



No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Additional clarification	UWMP location
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Article 5.2.4
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Article 5.2.4
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Article 5.2.4
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		N/A
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		N/A
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		N/A
<b>WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING <sup>b</sup></b>				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Article 6.1
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Article 6.2.1, Tables 18, 19, 20
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Article 6.2
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Article 6.3.2

No.	UWMP requirement <sup>a</sup>	Calif. Water		UWMP location
		Code reference	Additional clarification	
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Table 17
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Article 6.3.1
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Article 6.3.2
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Table 22
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Article 6.3.4
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Article 6.3.5
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Article 7.3.13, Appendix H
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Article 6.3.6
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Article 6.4

No.	UWMP requirement <sup>a</sup>	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Tables 18, 19, 20
<b>DEMAND MANAGEMENT MEASURES</b>				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Article 7.0
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Articles 7.3.1 through 7.3.14, "Effectiveness of DMM"
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Articles 7.3.1 through 7.3.14, "Effectiveness of DMM"
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Tables 26 through 29
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	N/A

<sup>a</sup> The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

<sup>b</sup> The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

## **Appendix E - District Ordinance 2005-01**

## ORDINANCE 2005-01

### AN ORDINANCE ESTABLISHING RULES AND REGULATIONS FOR IRRIGATION SERVICE IN THE GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

BE IT ENACTED by the Board of Directors of the GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT, County of El Dorado, State of California, as follows:

The rules and regulations for irrigation service within the GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT ("District") are adopted by the Board of Directors of said District as hereinafter set forth.

#### SECTION 1. General Conditions:

(a) Control of System: District Works shall be under exclusive control and management of District personnel duly appointed by the Board of Directors.

(b) The District shall not be liable for interruption, shortage or insufficiency of irrigation water supply, or for any loss or damage occasioned thereby.

(c) The District shall not be liable for damage to person or property resulting directly or indirectly from privately owned conduits, meters or measuring devices.

(d) Irrigation water is used at the customer's own risk and the customer agrees to hold the District, its officers and employees free and harmless from liability and damages that may occur as the result of defective water quality, shortages, fluctuation in flow or pressure, interruptions in service or for failure to deliver water.

(e) Pumping of water by the customer is done at the customer's risk. The District assumes no liability for damage to pumping equipment or other damages as a result of turbulent water, shortages, excess of water or other causes.

(f) No purchaser of water from the District acquires a proprietary or vested right by reason of use. No purchaser acquires a right to resell water or to use for a purpose other than that for which it

was applied nor to use it on premises other than indicated on the application. The terms, conditions, priorities and allocation of irrigation service may be altered and amended by the Board of Directors. The District does not guarantee irrigation service customers the right to future service.

(g) The District expressly asserts the right to recapture, reuse and resell all waters originating from District Works.

(h) Ditchtenders and other agents of the District shall have access to all lands irrigated from its water system and to all conduits for the purpose of inspection, examination, measurements, surveys or other necessary purposes of the District with the right of installation, maintenance, control and regulation of all meters and other measuring devices, gates, turnouts and other structures necessary or proper for the measurement and distribution of water.

(i) No bridges, crossing, pipe or other structures shall be placed in or over a canal without written permission of the District. Maintenance of the canal crossings shall not be the District's responsibility but shall rest with the owner of the crossing. Where the owner fails to maintain the crossing, the District may perform the necessary repairs or removal at the expense of the owner. Notice of the District's intent will be given, if possible, to the owner prior to the work commencing.

(j) No rubbish, garbage, refuse, chemicals or animal matter from any source may be placed in or allowed to be emptied into any ditch, canal or reservoir of the District.

(k) District canals or reservoirs shall not be used for swimming or bathing.

(l) Livestock shall not be permitted to contaminate the water supply nor destroy or damage the canal system or use thereof. Property owners are liable for any damage due to livestock.

(m) No conveyance system shall cause a cross connection with the District's water system with any other source of water.

(n) No buildings, corrals or other structures, fences, trees, lines or bushes shall be permitted upon rights-of-way or use thereof be made in any way except by written authority of the District. Construction of

fences and/or gates is not permitted without written approval of the specifications by the General Manager.

(o) Violation of Rules and Regulations: Failure to comply with rules and regulations of the District shall be sufficient cause for terminating irrigation service as determined by the Board of Directors.

(p) Any person dissatisfied with any determination of the District management shall have the right to appeal to the Board of Directors.

(q) Amendments: The Board of Directors of the District may at their discretion alter, amend or add to these rules and regulations. The Board of Directors will follow applicable laws during this process.

## SECTION 2. Application for an Irrigation Service Account:

(a) No irrigation service will be rendered until a complete application for an Irrigation Service Account has been approved and is on file at the office of the District. Applications will be accepted between January 1<sup>st</sup> and March 1<sup>st</sup> for the impending irrigation season. The application for service shall state that the customer agrees to abide by the terms and conditions for service as established in the Irrigation Ordinance.

(b) Applications will be approved where the District Works have sufficient capacity to meet service requested. Applications will be considered for approval utilizing the following priority system:

- Priority 1. Applications for Irrigation Service to parcels that received irrigation service during the immediate past irrigation season.
- Priority 2. Applications for Irrigation Service to parcels with the most recent active Irrigation Service Account during the previous ten (10) irrigation seasons
- Priority 3. New applications for irrigation service to parcels that have been made after the 2003 irrigation season with priority established by the earliest season applied for. Applications and priority are specific to the section of ditch the parcel is located near.

Competing applications within the same priority level, will be determined by public lottery.

(c) Applications for an increase to service will receive Priority 3 status for the requested increase.

(d) Applications must in all cases be signed by the holder of title to the property requesting irrigation service. If the property requesting irrigation service is leased, two months of charges must be paid in advance. The landowner of leased property shall be responsible for all charges or assessments.

(e) Applications for an Irrigation Service Account to benefit a parcel of land that is not adjacent to the District Works must be accompanied by a legally recorded easement that allows the conveyance of water to the parcel requesting irrigation service. The easement shall grant the District the right of ingress and egress for inspection, installation and maintenance purposes.

(f) New applications for Out-of-District Irrigation Service Accounts will not be approved by the Board of Directors. An existing Out-of-District Irrigation Service Account that is inactive for two or more years will be deleted from the District's accounts and the service will be permanently removed.

### SECTION 3. Distribution of Water:

(a) The irrigation season shall generally be from May 1 through October 1 of each year. The Board of Directors shall consider changes to the irrigation season to respond to climactic conditions and may implement such changes by a majority vote.

(b) The District does not guarantee irrigation water under pressure from the District Works. Pressure requirements of the customer are the sole responsibility of the customer and the District shall not be liable for any damage to equipment used to provide pressure to the customer.

(c) Water is distributed under continuous flow. Water must be used continuously during all days and nights including holidays and Sundays and no allowances shall be made for failure to use water when it is made available. Failure to use water on schedule shall not entitle the customer to any rebate.



(d) Irrigation service is provided for the entire irrigation season. Customers shall pay for irrigation service for the entire irrigation season regardless of their interest or ability to use water.

(e) When interruptions to irrigation service due to failure of the District Works extend beyond five (5) days, proportionate adjustments for such water loss will be made.

(f) Irrigation customers shall pay a proportionate amount for irrigation service when the irrigation season is extended or shortened by the Board of Directors.

(g) Unauthorized connections or the taking of water in an amount greater than applied and paid for, by any means, is a misdemeanor under California Penal Code Section 498 and shall be subject to criminal prosecution under Section 498 and any other applicable laws. In addition, the District may bring a civil action for damages and may refuse future service to the parcel.

(h) Irrigation customers shall prevent any unnecessary or wasteful use of water. Should a customer permit wasteful use of water, the District may discontinue service if such condition is not corrected within five (5) days after giving the parcel owner written notice of intention to terminate service.

(i) No more than one parcel shall be served through each Irrigation Service Account except with the prior written approval of the Board of Directors. Any such approval shall be recorded against each parcel with the caveat that the agreement expires upon any change of ownership. Each Irrigation Service Account shall have independent service lines and sumps.

(j) The minimum irrigation service for each Irrigation Service Account shall be one miner's inch, from the open ditch system, and one-half miner's inch from the irrigation pipeline system. In the future, the District may consider reducing the minimum irrigation service to one-half miner's inch from the open ditch system and one-quarter miner's inch from the irrigation pipeline system.

(k) All pumped services shall utilize a sump provided by the customer and acceptable to the District.

(l) All Irrigation Service Accounts must have an appropriate measuring device which shall be installed by the District. The customer shall pay the cost thereof including costs of installation. The District shall approve the location of the measuring device.

(m) Customers receiving irrigation service who request a change in flow rate during the season shall be charged a fee set by the Board of Directors for the adjustment.

(n) Replacement of measuring devices shall be at the expense of the customer if the replacement is necessary due to abnormal wear or abuse.

(o) Alternate Boxes -The Board of Directors shall not approve any new applications for Alternate Boxes.

(p) Unusual costs incurred by the District to provide irrigation service shall be paid in full by the applicant or customer. An estimate of the expense shall be approved by the property owner prior to work commencing.

#### SECTION 4. Charges, Rates and Billings:

(a) The District will maintain a uniform rate schedule which may be changed from time to time upon action of the Board of Directors. The rate schedule, by reference, is attached hereto and made a part of these rules and regulations.

(b) Irrigation billings are made bi-monthly (every two months) in advance.

(c) All penalties shall be charged as outlined on the billings

(d) Disconnected irrigation service accounts shall pay a fee to re-establish service

(e) Irrigation service accounts requesting verification of flow will pay a fee if the delivered flow is within 10% of the contracted amount

#### SECTION 5. REPEAL

(a) Upon the effective date of this Ordinance 2005-\_\_ all previously adopted Ordinances pertinent to the Rules and Regulations for

Irrigation Service will be superceded and repealed, including, but not limited to, Ordinance 79-2, 79-8, 87-1, and 04-01.

PASSED AND ADOPTED at a regularly held meeting of the Board of Directors of the GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT this tenth day of May, 2005.

AYES: Bob Diekon, Norman Krizl, Doug Pickell, JoAnn Shepherd and Hy Vitcov

NOES: None

ABSENT: None



\_\_\_\_\_  
Bob Diekon, President  
Board of Directors  
GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

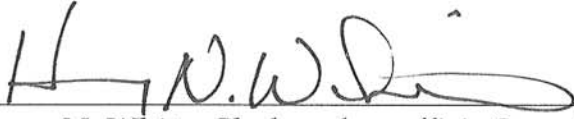
ATTEST:



\_\_\_\_\_  
Henry N. White, Clerk and ex officio  
Secretary, Board of Directors  
GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

\*\*\*\*\*

I hereby certify that the foregoing is a full, true, and correct copy of Ordinance 2005-01 duly and regularly adopted by the Board of Directors of the Georgetown Divide Public Utility District, El Dorado County, California, at a meeting duly held on the tenth day of May, 2005.

A handwritten signature in dark ink, appearing to read 'H. N. White', written over a horizontal line.

Henry N. White, Clerk and ex officio Secretary of the  
Georgetown Divide Public Utility District

## **Appendix F - 2010 Consumer Confidence Report**

# Georgetown Divide Public Utility District



Domestic Water

Irrigation Service

On-Site Waste Disposal

1946~ 2011 Reflecting on the Past. Planning for the Future.

The Georgetown Divide Public Utility District is pleased to present our annual newsletter to our customers, which not only includes two documents mandated by the California Department of Public Health (1. Annual Water Quality Report /Consumer Confidence Report and 2. a State Notification Letter regarding the District's water treatment processes), but also provides an overview of GDPUD's projects and services. We have combined all information into one mailing to save on printing and mailing costs.

Dear GDPUD Customer,

Every year brings more opportunities for our District to meet the daily demands of providing safe, reliable water to our communities while forecasting water use to meet the needs of our future customers. This year is no different.

This year, in addition to meeting the daily maintenance and operational needs of our customers, we embarked upon an important task of applying to the State Water Resources Control Board for water rights for the Stumpy Meadows Project. The Stumpy Meadows Project was constructed between 1960 and 1962 and at that time, we obtained two water rights permits: one that allows the storage of water at Stumpy and the second that allows a direct diversion from Pilot Creek for delivery to meet our customers' needs.

The Board rightly anticipated then that we should continue to apply for the permit extensions every 10 years until such time that our communities have reached maximum water use capacity. We have reached this milestone, and have prepared this

water rights licensing package not only so that we can maintain rights to our highest water use, but also to embed current environmental standards into our operational practices.

While water rights issues can be complicated, we want to assure you that your GDPUD Board works to bring the staffing and expertise necessary to meet the current and future water needs of our communities while anticipating and budgeting for ongoing maintenance of our facilities.

Most of our customers simply want to know that when they turn on a faucet, they will get safe, reliable water. For those of you who would like to know more about our budgets, reports and projects, we invite you to visit our website at [www.gd-pud.org](http://www.gd-pud.org), or attend our meetings held on the second Tuesday of every month at 9:00 am at our District offices.



The District applied for water rights licensing of Stumpy Meadows in 2010. Stumpy stores 20,000 acre feet of water and is the source of the water for the Divide communities.

Photo by Roberta Long, 2006.



Stumpy Meadows spilled on December 19, 2010, only the fourth time it has spilled that early.



## GDPUD 2010 NEWS BRIEFS & ACCOMPLISHMENTS

GDPUD staff carry out the vision and goals established by our Board of Directors.

Below are highlights of our 2010 accomplishments.

**Hydroelectric Supply & Revenue.** Both Tunnel Hill and Buckeye Hydroelectric Plants were in production for the full year, producing 3.6 million kiloWatt hours, which is enough electricity to power 300 homes for an entire year.

Buckeye Hydroelectric Plant



**Residential & Commercial Domestic Water Service.** We provided more than 554 million gallons of water to 3,571 residential and commercial customers in 2010.

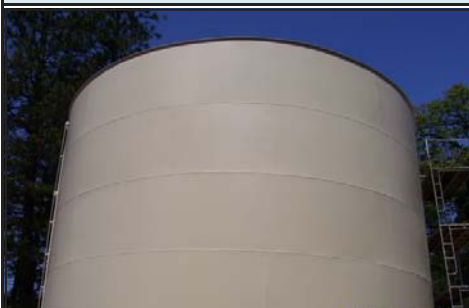
GDPUD is providing FREE water conservation kits for homes built before 1992. Please stop by and pick up your kit today.

**Irrigation Water.** The District supplied nearly 5,000 acre feet of water to irrigation customers from May through September. If you are interested in providing input into irrigation policies and processes, please call the District office and ask to be placed on the Irrigation Committee and mailing list.

**Wastewater Services.** In 2010, we performed 1,313 wastewater inspections in the Auburn Lake Trails On-Site Wastewater Disposal Zone. In order to reduce the inflow and infiltration into the Community Disposal System (CDS) six leaking septic tanks were replaced in 2010. One homeowner took advantage of the District's no-interest loan for a year to help pay for the cost of this tank replacement.

The Board also adopted the State-mandated Sewer System Management Plan (SSMP) in August 2010, which outlines more stringent maintenance and inspection activities of the CDS to prevent sanitary sewer overflows. The SSMP was prepared by in-house staff, resulting in an approximate \$50,000 savings to the District.

GDPUD customers have experienced no sewer overflows since 2005 due to the District's implementation of the septic tank leak detection and replacement program. This program has been instrumental in significantly reducing the inflow and infiltration into the CDS sewer collection system and in extending the collection system's life.



Black Oak Mine Tank Exterior

**Facilities Maintenance.** We recoated the interior and exterior of the Black Oak Mine water storage tank in 2010 and continued this maintenance on other tanks in 2011. The purpose of the coating is to maintain the integrity of the tanks and to prevent corrosion and pitting, which would eventually create holes in the tank that can lead to catastrophic failure of the tank.

The Black Oak Mine tank is a 300,000-gallon tank that serves Garden Valley and Greenwood. We estimated the price to be around \$300,000, but were able to shop the market and negotiate a \$128,000 price, saving significant ratepayer funds. The project was completed on schedule and within budget.

**Auburn Lake Trails Water Treatment Plant Retrofit.** GDPUD was able to secure a \$200,000 grant from the El Dorado County Water Agency towards engineering and design cost for this project. Rather than construct a new plant, the Board voted in 2009 to retrofit the ALT plant, resulting in significant savings for the customers. The retrofit is at the 60% design stage, with final design expected to be complete in 2011 and construction final in 2013.

**Fiscal.** The California Society of Municipal Finance Officers awarded GDPUD an "Excellence in Budgeting" Award for its 2009-2010 operating budget. The award is based not only on the fact that GDPUD met all budget standards for municipal agencies, but also because the necessary fiscal detail was mixed well with written overviews, pictures and charts that make these complex budgets easier for the public to understand. The District's 2009-2010 budget was reduced by 3.35% from the previous year's budget. To view District budgets, audits and other details, go to our website at [www.gd-pud.org](http://www.gd-pud.org).

**CONSUMER CONFIDENCE REPORT 2010 CALENDAR YEAR (REPORTED IN 2011)****DEAR WATER USER,**

This report provides a snapshot of your water quality. We are pleased to report that in 2010, as in years past, your water met all US Environmental Protection Agency (EPA) and state drinking water health standards. The District vigilantly safeguards its water supplies and once again, our water system has not violated a maximum contaminant level or any other water quality standard. Included in these pages are details on where your water comes from, what it contains and how it compares to state standards. For additional information on water quality, customers may contact Becky Siren at GDPUD at (530) 333-4356.

**About Contaminants**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. GDPUD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

**Water Quality Rules Explained**

In order to ensure that tap water is safe to drink, the EPA and CA Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

**Some People Are More Vulnerable**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

**Natural Materials Can Enter Water**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, reservoirs and canals. As water travels over the surface of the land it dissolves naturally-occurring minerals and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from septic systems, agricultural livestock operations, and wildlife.

**Natural Materials Can Enter Water (cont.)**

- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, septic systems and agricultural application.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

**WATERSHED HEALTH****Water Source Assessment**

Source water protection is the primary barrier for providing safe drinking water. A contaminant that does not enter the water source does not need to be removed. An assessment of the district's drinking water source was completed in December 2002. The source is considered most vulnerable to the following activities for which no associated contaminants have been detected in the water supply: historic gas stations, historic mining operations, wastewater treatment systems, forest management activities, recreational use, storm drain and storm water discharges and illegal dumping. You may request a copy of the complete assessment or a summary at the GDPUD office or by contacting the CDPH District Engineer, at (916) 449-5600.

**YOUR WATER SUPPLY**

Your water originates in the Sierra, flows into Stumpy Meadows Reservoir and is transported through a Gold Rush-era canal system and pipes to the Walton Lake and Auburn Lake Trails water treatment plants.

The Walton Lake plant serves the communities of Georgetown, Garden Valley, Kelsey and Greenwood. The Auburn Lake Trails plant serves Auburn Lake Trails, Cool and Pilot Hill.

Both plants use a multi-barrier process to ensure the quality of your drinking water. Each plant uses liquid bleach to disinfect raw water before it undergoes treatment. The treatment process involves coagulation for the removal of fine particles, filtration using sand and anthracite, disinfection, and reduction of corrosivity through use of sodium carbonate. Treated water is stored in tanks and piped to customers.



# Georgetown Divide Public Utility District

## GDPUD Consumer Confidence Report

2010 Calendar Year (Reported in 2011)

### Primary Drinking Water Standards--Health Related

Parameters/ Constituents	Unit	MCL	PHG or (MCLG)	Your Water		Meets Standards	Typical Source of Contaminant
				Walton Lake WTP Service Area	Auburn Lake Trails WTP Service Area		
Microbiological Primary Drinking Water Standards							
Turbidity	NTU	TT=1 NTU	0.1	0.22 highest (0.06 average)	0.31 highest (0.05 average)	YES	Soil runoff
		TT=95% of samples ≤ 0.3 NTU	n/a	100%	100%		
TURBIDITY NOTE: Turbidity is a measurement of the cloudiness of the water or the level of suspended matter in the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants. In reporting turbidity, the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits are specified.							
Total Coliform Bacteria (Total Coliform Rule) (weekly)		no more than one positive monthly sample	0	0	1	YES	Naturally present in the environment.
Fecal Coliform and E. Coli (Total Coliform Rule) (weekly)		A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or E. Coli positive	0	0	0	YES	Human and animal fecal waste

COLIFORM NOTE: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present.

### Inorganic Chemicals- Source Water Results

Aluminum	ppm	1.0	0.6	ND	ND	YES	<b>Note on Inorganic Chemicals:</b> The state does not require us to report undetected inorganic chemicals. These test results are included as a courtesy for our customers.
Antimony	ppm	6	20	ND	ND	YES	
Arsenic	ppb	10	0.004	ND	ND	YES	
Asbestos	fibers/L	7 MFL	(7 MFL)	ND	ND	YES	
Barium	ppm	1	2	ND	ND	YES	
Beryllium	ppb	4	1	ND	ND	YES	
Cadmium	ppb	5	0.07	ND	ND	YES	
Chromium	ppb	50	(100)	ND	ND	YES	
Copper	ppm	RAL=1.3	0.3	ND	ND	YES	
Cyanide	ppb	150	150	ND	ND	YES	
Fluoride	ppm	2	1	ND	ND	YES	
Lead	ppb	RAL=15	0.2	ND	ND	YES	
Mercury (inorganic)	ppb	2	1.2	ND	ND	YES	
Nickel	ppb	100	12	ND	ND	YES	
Nitrate (as Nitrate, NO <sub>3</sub> )	ppm	45	45	ND	ND	YES	
Nitrite (as Nitrogen, N)	ppm	1	1	ND	ND	YES	
Perchlorate (2008)	ppb	6	6	ND	ND	YES	
Selenium	ppb	50	30	ND	ND	YES	
Thallium	ppb	2	0.1	ND	ND	YES	

### Natural Radioactivity

Gross Alpha Activity (2004)	pCi/L	15	0	ND	ND	YES	Erosion of natural deposits
Radium 226 & 228 (2004)	pCi/L	5	0	ND	ND	YES	Erosion of natural deposits
Uranium (2004)	pCi/L	20	0.5	ND	ND	YES	Erosion of natural deposits

### Organic Chemicals

Glyphosate (10/07)	ppm	700	900.0	ND	ND	YES	Runoff from herbicide use
Triclopyr (10/07)		NS	NS	ND	ND	YES	Runoff from herbicide use
Hexazinone (12/01)		NS	NS	ND	ND	YES	Runoff from herbicide use

### Disinfection By-products, Disinfectant Residuals, and Disinfection Byproduct Precursors

TTHMs (Total Trihalomethanes)	ppb	80	NA	25.3 running annual average 29.5 highest LRAA (21.0-32.0 range)	42.25 quarterly average 55.0 highest LRAA (28.0-68.0 range)	YES	By product of drinking water disinfection
Haloacetic Acids	ppb	60	NA	15.3 quarterly average 18.2 highest LRAA (9.6-20.1 range)	24.7 quarterly average 32.2 highest LRAA (16.3-33.8 range)	YES	By product of drinking water disinfection
Chlorine	ppm	MRDL = 4.0	MRDLG=4	0.74 average (0.58 to 0.92 range)	0.74 average (0.58 to 0.92 range)	YES	Drinking water disinfectant added for treatment

### Definitions

**MCL: Maximum Contaminant Level.** The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's (or MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect the odor, taste, and appearance of drinking water.

**MCLG: Maximum Contaminant Level Goal.** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency.

**MRDL: Maximum Residual Disinfection Limit.** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG: Maximum Residual Disinfection Limit Goal.** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NTU: Nephelometric Turbidity Units.** A measurement of water clarity.

**Primary Drinking Water Standard:** MCL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**PHG: Public Health Goal.** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.

**RAL: Regulatory Action Level** is the concentration of a contaminant which if exceeded, triggers treatment or other requirements that a system must follow.

**ND:** Non-Detected

**NS:** No Standard

**NA:** Not Applicable

**ppm:** parts per million

**ppb:** parts per billion

**mg/L:** milligrams per liter (1 mg/L = 1 ppm)

**pCi/L:** pico curies per liter

**TOC:** Total Organic Carbon

**TT:** Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water.

**LRAA:** Locational Running Annual Average

**Note to GDPUD Customers:** Some samples, though representative, are more than a year old. The state allows us to monitor some constituents less than once per year because the concentration of these constituents does not change frequently.

**Este informe contiene información muy importante sobre su agua beber.  
Tradúzcalo o hable con alguien que lo entienda bien.**

# Georgetown Divide Public Utility District

## GDPUD Consumer Confidence Report

2010 Calendar Year (Reported in 2011)

### Secondary Drinking Water Standards - Aesthetic

Parameters / Constituents	Unit	Secondary MCL	PHG or (MCLG)	Your Water		Meets Standards	Typical Source of Contaminant
				Walton Lake WTP Service Area	Auburn Lake Trails WTP Service Area		
Source water results							
Note: There are no PHG's or MCLG's for constituents with secondary drinking water standards because these are not health-based, but set on the basis of aesthetics.							
Aluminum	ppb	200		ND	ND	YES	Erosion of natural deposits; residual from some surface water treatment processes
Color	units	15 units		ND	ND	YES	Naturally occurring organic materials
Copper	ppm	1.0		ND	ND	YES	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Aggressive Index		NS		8.6 - 8.61 (slightly corrosive)	8.6 - 8.61 (slightly corrosive)	YES	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors.
Foaming Agents (MBAS)	ppb	500		ND	ND	YES	Municipal & industrial waste discharges
Iron	ppb	300		ND	240	YES	Leaching from natural deposits; industrial wastes
Manganese	ppb	50		12	ND	YES	Leaching from natural deposits
Methyl-tert-butyl ether (MTBE)	ppb	5		ND	ND	YES	Leaking underground storage tanks; discharge from petroleum and chemical factories.
Nitrate as NO <sub>3</sub>	ppm	45		ND	ND	YES	Run-off and leaching from fertilizer use; leaching from sewage systems; erosion of natural deposits
Odor-Threshold	units	3		ND	1	YES	Naturally occurring organic materials
Silver	ppb	100		ND	ND	YES	Industrial discharges
Zinc	ppm	5		ND	ND	YES	Run-off/leaching from natural deposits;industrial wastes
Total Dissolved Solids (TDS)	ppm	1000		21	27	YES	Runoff/leaching from natural deposits
Specific Conductance (EC)	micromhos	1600		25	28	YES	Substances that form ions when in water; seawater influence
Chloride	ppm	500		0.70	0.73	YES	Run-off/leaching from natural deposits; seawater influence
Sulfate	ppm	500		0.5	ND	YES	Run-off/leaching from natural deposits' industrial wastes.

### Additional Constituents

Alkalinity as Calcium Carbonate	ppm	NS	NS	12	14	YES	Naturally occurring in water
Calcium	ppm	NS	NS	1.9	2.3	YES	Naturally occurring in water
Magnesium	ppm	NS	NS	ND	ND	YES	Naturally occurring in water
Potassium	ppm	NS	NS	ND	ND	YES	Naturally occurring in water
pH (daily treated water)	units	6.5-8.5	NS	8.15 average (8.07 - 8.14 range)	8.11 average (7.99 - 8.20 range)	YES	Naturally occurring in water
Sodium	ppm	NS	NS	1.4	1.4	YES	Sodium refers to the salt present in the water and is generally naturally occurring.
Total Hardness	ppm	NS	NS	7.6	9	YES	Naturally occurring in water, generally from magnesium and calcium.

**How Data is Collected and Reported**—The tables presented on these pages list all of the drinking water contaminants that were detected during the 2010 calendar year. The presence of these contaminants does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables was collected during 2010. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. During 2010, the district conducted monitoring for an additional 78 contaminants, none of which were detected in our water supplies. In addition, the state waived testing for more than 30 additional contaminants that are sometimes tested. Some of the data in this Consumer Confidence Report, though representative of water quality, is more than one year old.

PUBLIC NOTICE TO DISTRICT CUSTOMERS

## OLDER WATER TREATMENT PROCESS DOES NOT MEET NEW STATE STANDARDS

Dear Customer,

The Georgetown Divide Public Utility District takes great pride in the high quality of the water we supply to our customers. In our many years of service, our water has always met or exceeded state and federal public health standards.

Even though our water continues to meet all of these standards, one of the methods in our water treatment process has become outdated under today's state standards. This is not surprising in a smaller, rural community where water treatment plants are older (the Auburn Lake Trails plant was built in 1971). It is financially challenging for a district with a small customer base to pay for millions of dollars in water system improvements.

Seven years ago, on February 9, 2004, the California Department of Public Health, Office of Drinking Water issued an administrative order (No. 01-09-04CO-002) that instructs the district to comply with state regulations regarding the filtration of drinking water. Printed here is the state's public notification message:

### NOTIFICATION OF FAILURE TO COMPLY WITH DRINKING WATER TREATMENT STANDARDS

"The Georgetown Divide Public Utility District is providing this notice at the direction of the State of California Department of Public Health, Division of Drinking Water and Environmental Management (Department) to bring to your attention certain matters regarding the treatment of your drinking water supply.

The Department establishes standards for the quality of drinking water, including regulations for the quality of water supplies drawn from lakes and streams (i.e., surface water). If such water is inadequately treated, microbiological contaminants in the water may cause disease. Disease-causing organisms, if present, can cause symptoms including diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. (These

symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water.)

Since it is infeasible to analyze treated water for all disease-causing organisms that may be present, the Department has established enforceable requirements (Surface Water Treatment Regulations) for treating surface water to reduce the risk of these adverse health effects. The regulations include specific criteria for filtering and disinfecting surface water to remove or destroy microbiological contaminants. Drinking water that is treated to meet these criteria is considered to be safe.

The District's Auburn Lake Trails Water Treatment Plant uses a filtration technology that is not among those listed in the Surface Water Treatment Regulations. Because the District has not demonstrated to the Department that its treatment plants provide a degree of treatment equivalent to the listed technologies, the plants are not considered to be in compliance with the Department's regulations. The District is currently working toward bringing its water treatment plants into compliance with the regulations or constructing new facilities that will comply with the regulations.

It is estimated that all improvements to the system will be made in 2013. The District will keep you informed on a regular basis of progress made to resolve this issue. If you have any questions regarding this notification, or our service, please call Becky Siren at GDPUD at (530) 333-4356."

#### District Summary

The district's water treatment plants were considered to be state of the art when they were built, but the "in-line filtration" technology does not meet current standards. Your Board of Directors wants to provide the best possible service to customers but is also very concerned about costs and resulting impacts on water rates.

The district is making significant progress in bringing its water treatment facilities into compliance with current regulations. A new filtration system was added in June 2005 at the Walton Lake Water Treatment Plant, which brings it into compliance with state standards.

The District is currently in the design phase for retrofitting the existing Auburn Lake Trails Water Treatment Plant to meet the state and federal surface water treatment standards and expects completion of the project in 2013.

In the meantime, you may consider your water safe to drink.

## WATER BILL PAYMENT OPTIONS

Bi-monthly water bills are mailed in odd months (January, March, May, July, September and November), and cover service for the previous two months. Bills are due and payable the last day of the above-listed months. (Ex: The bill you receive in early January covers service from November 1 – December 31 and is due upon receipt. The bill will be delinquent if not paid by January 31.)

Those customers who would rather budget on a monthly basis can submit a payment of about half of a typical bill each month.

Be sure to include your customer number with your water payment or other correspondence, and mail to: PO Box 4240, Georgetown, CA 95634-4240.

Customers wishing to drop off payments after normal business hours may use the payment drop box located at the main office entry.

In an effort to reduce the financial burden on those customers whose bills remain unpaid for more than 30 days, the Board reduced the account delinquency fees from \$25 to \$12 per occurrence and the finance charges from 10 percent monthly to 1 percent bimonthly after the first 30 days. All other fees such as returned check charges, reconnection fees and payment collection fees remain the same. The new fees take effect August 2011. For a fee schedule, please visit our website at [www.gd-pud.org](http://www.gd-pud.org) under the publications drop-down menu.

## VISIT OUR WEBSITE!

Please visit our website at [www.gd-pud.org](http://www.gd-pud.org) to download agendas, minutes, ordinances, publications and other important information.

## WATER CONSERVATION TIPS

Conserving water doesn't mean you should sacrifice your vegetable garden. By making small changes every day, you can reduce your water consumption sometimes by hundreds of gallons a month.

- Take shorter showers. A 5-minute shower uses 4-5 gallons versus 50 gallons for a bath.
- Shut off the water while brushing your teeth or shaving to save up to 500 gallons per month.
- Change your showerhead to a water-efficient one and use 750 gallons less water each month.
- Compost food and vegetables instead of using water to flush it down the garbage disposal.
- Run your dishwasher with full loads only. And if your clothes washer has a water level selector, be sure to check it before each wash to avoid overfilling with water.
- Keep a water pitcher in the refrigerator instead of running the faucet to get cold water.

## GDPUD REQUIRED TO REDUCE WATER CONSUMPTION BY 20% BY 2020

Even though GDPUD is considered a rural water agency, because we have more than 3,000 connections, we must comply with the state's mandate to prepare an Urban Water Management Plan (UWMP). Recently, the state added a new requirement for reducing water consumption by 20% by 2020 and asked water purveyors to update their Plans to reflect these conservation measures.

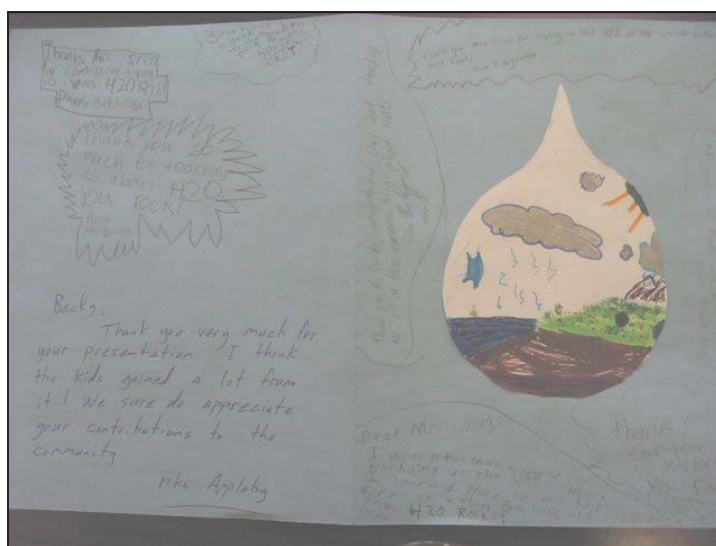
Thankfully, the Board anticipated the water reduction mandates several years ago and put several measures into place already, such as:

- Appointing a water conservation coordinator (Becky Siren) to help the District's customers implement conservation measures;
- Monitoring unaccounted water every billing cycle and identifying remedies;
- Offering water conservation kits to customers (call 333-4356 for your free kit!);
- Providing water education and conservation information to schools to reach our youngest customers (see photo below); and
- Passing an ordinance with a tiered rate structure (the more you conserve, the more you save!)

Many of our customers are conservation-minded and have implemented many water saving ideas. But we need everyone to practice water conservation to meet the requirements set by state law.

See information on this page for ways you can reduce water use, or check out other water conservation websites, such as [www.h2ouse.com](http://www.h2ouse.com) or [www.wateruseitwisely.com](http://www.wateruseitwisely.com).

(Go online to [www.gd-pud.org](http://www.gd-pud.org) to download a copy of our Urban Water Management Plan.)



Children from Georgetown School sent this note to Becky Siren to thank her for a presentation she gave regarding water conservation.



**GEORGETOWN DIVIDE  
PUBLIC UTILITY DISTRICT**

PO BOX 4240, GEORGETOWN, CA 95634-4240  
OFFICE HOURS: M—F 7:45 AM—4:30 PM



**Your GDPUD Board Members**

The Board meets regularly on the second Tuesday of each month, at 9:00 am at the District offices, located at 6425 Main Street in Georgetown.

Your board members are:

- Norm Krizl, President
- Bonnie McLane, Vice President
- Bonnie Neeley, Treasurer
- Ray Griffiths, Director
- Kathy Otermat, Director

**GDPUD CREWS MAINTAIN WATER QUALITY AND RELIABILITY**



Top Left: Crews repair 300 feet of pipe in an area that is geologically unstable. They shotcrete the head wall to prevent water seeping into the piped section.

Top Right: Come rain or...snow. GDPUD staffer Jack Bohn drives the Snow Cat up to Stumpy Meadows to check on the facilities. Staff member Kyle Madison is in the background.



Bottom Left: Crews make a repair band to fix a raw water pipe near ALT Water Treatment Plant. Jacob Walsh (L), Chris Barbour (R back) and Matt Sampson (R front) are the crew members.

Bottom right: Crew members Marty Ceirante (L) and Jason Smith complete a fix to a service line leak in Garden Valley, leaving a restored roadway



Visit our website at [www.gd-pud.org](http://www.gd-pud.org) to download agendas, minutes and other information.

## **Appendix G - Examples of Public Education Documentation**

- California Water Facts
- Landscape Design
- Outdoor Water Conservation Checklist
- Ways to Save Water

C A L I F O R N I A

# *Water Facts*



Compliments of:  
Georgetown Divide PUD  
P.O. Box 4240/6425 Main St.  
Georgetown, CA 95634  
(530) 333-4356



## California Water Facts

*This booklet was developed to help you identify your source of water, realize the importance of water in a semi-arid state and understand the competition for our most precious resource.*

.....



*Much of California's water is stored as snow in the Sierra Nevada mountains.*

When a person turns on the faucet, he or she may be tapping a water source close to home or one hundreds of miles away because of the complex web of water rights and delivery established long ago.

Where a community's water comes from depends largely on the foresight of its founders and the historic use of local lands and water. Some cities claimed water rights early to assure an adequate supply into the future.

Other communities with plentiful surface water close to home failed to establish rights to those sources, and as a result, today do not have enough local water for their needs. Consequently, these communities must import water, sometimes over great distances, from state, federal or local water projects.

.....



*The mission of the Water Education Foundation, an impartial nonprofit organization, is to create a better understanding of water issues and help resolve water resource problems through educational programs.*

Brochure produced with a grant from the U.S. Bureau of Reclamation, Mid-Pacific Region.

Cover texture photo courtesy of Roland Mills, Oasis Studios, Grass Valley, CA.

Brochure designed by Blue Cat Studio, Colfax, CA.

revised June 2002



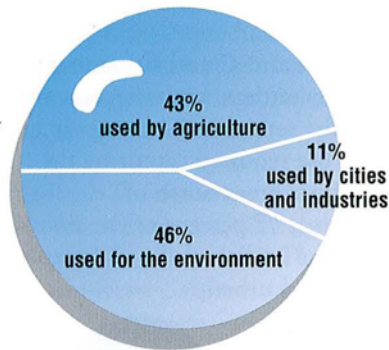
## Rain and Snow

California receives about 193 million acre-feet of water each year as precipitation (rain and snow), but there is great variability between regions. Yearly precipitation on the North Coast is about 90 inches but only 2 inches in Death Valley.

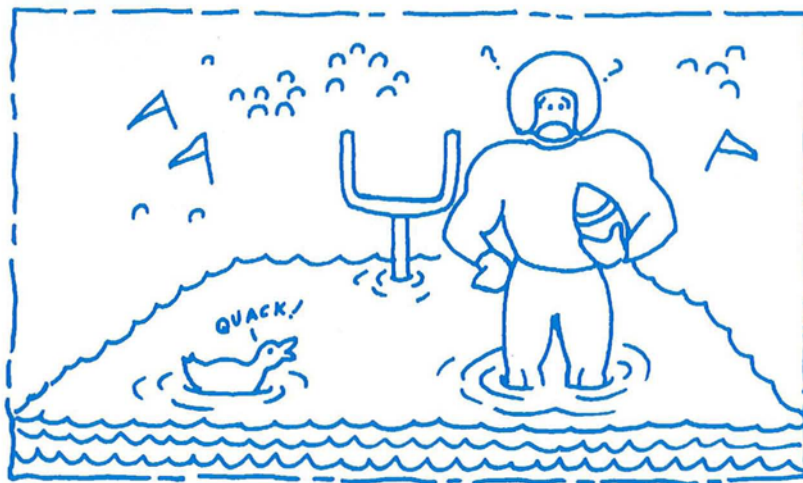
Much of this precipitation evaporates, leaving California with 78 million acre-feet in surface water supply (including Colorado River and Klamath River supplies). Of that water:



Precipitation can fall to the earth as rain, snow, sleet, hail or dew.



An acre-foot equals about 326,000 gallons, or enough water to cover an acre of land about the size of a football field, one foot deep. An average California household uses between one-half and one acre-foot of water per year for indoor and outdoor use.



## Water Use

### Surface Water

The water that runs into rivers, lakes and manmade reservoirs is called "surface water." Homes, farms and the environment use about 65.4 million acre-feet of surface water a year.



*Irrigating an orchard (with groundwater).*

### Groundwater

We use about 12.5 million acre-feet of groundwater in an average year (about 30 percent of total statewide water use). In drought years, however, groundwater use increases to about 40 percent of total use. At present, California is overdrafting its groundwater supplies (extracting more water than is returned) by about 1.5 million acre-feet a year.

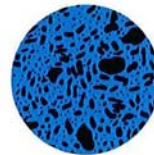
### History

California's mild climate and abundant natural resources attracted early settlers, but water was the catalyst that allowed the semi-arid state to grow and prosper. Putting it to use required capturing the water and moving it from areas north of Sacramento, where nearly 75 percent of the state's rainfall occurs, to central and southern California,

where 80 percent of the agricultural and urban use exists.

Large water development, storage and distribution projects transported the water, changing arid land to farmland and giving life to new cities and towns. Without these projects, much of the state would be different from what we see today.

These projects, built from the 1930s to 1970s, helped make California the nation's leading producer of food and fiber, a major manufacturing center, the most populous state, and the eighth largest economy in the world.



*Groundwater fills the pores (spaces) between rocks and other materials found beneath the earth's surface.*

## Water Delivery

Water is free in California, but customers must pay for the cost of treating, pumping and transporting water and/or for building the dams, reservoirs and aqueducts needed to store and deliver the water.

There are over 1,000 local, state and federally owned and operated reservoirs in California. About 70 percent of California's annual water supply for urban and agricultural use is met by locally owned and operated dams, storage reservoirs and aqueducts. Examples are the Hetch Hetchy Reservoir in Yosemite National Park, which serves the city of San Francisco, and the Colorado River Aqueduct built by the Metropolitan Water District of Southern California, which brings Colorado River water to southern California.

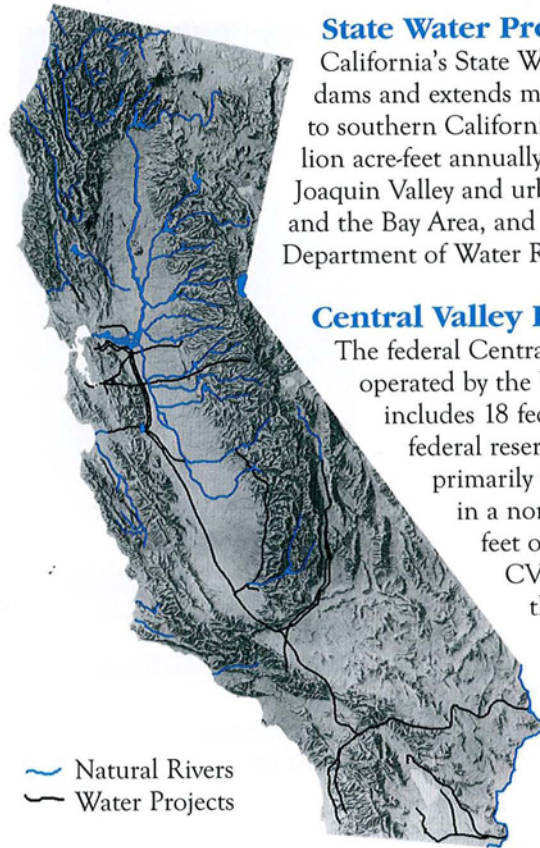
There also are two major water projects, the State Water Project (SWP) and the federal Central Valley Project (CVP), that carry water from northern California to central and southern California users.



*The Los Angeles Aqueduct, carrying water from the Owens Valley, helped the city grow from a population of 214,000 in 1905 to 3.8 million today.*



## The Water Projects



— Natural Rivers  
— Water Projects

### State Water Project

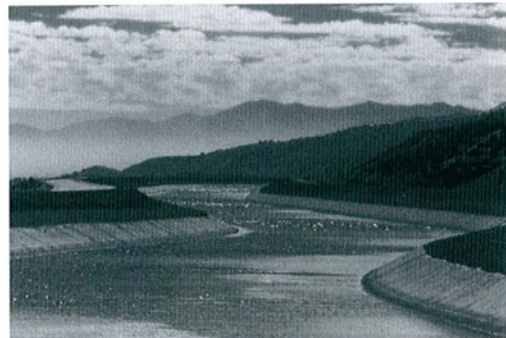
California's State Water Project (SWP) consists of 20 dams and extends more than 600 miles from northern to southern California. The SWP delivers about 3 million acre-feet annually and serves farmers in the San Joaquin Valley and urban users in southern California and the Bay Area, and is operated by the California Department of Water Resources.

### Central Valley Project

The federal Central Valley Project (CVP), which is operated by the U.S. Bureau of Reclamation, includes 18 federal reservoirs and four state-federal reservoirs. The CVP was built primarily to irrigate the Central Valley, and in a normal year delivers 7 million acre-feet of water. About 90 percent of the CVP's water is used to irrigate more than 3 million acres of farmland — and the project also provides water to about 2 million urban consumers.

*Major elements of California's water delivery system which transport water from areas of precipitation to areas of need.*

A primary feature of the SWP is the 444-mile long California Aqueduct which transports water from the Sacramento-San Joaquin Delta south to the Los Angeles area. About 30 percent of SWP water is used by agriculture. About 20 million Californians — or two-thirds of the state — get part of their water from the SWP.



## Environmental Protection

In the decades since construction of the state's major water projects, societal values have shifted in favor of environmental protection and enhancement. Beginning in the 1970s, elected officials recognized these values through passage of state and federal laws designed to protect the environment. These laws include the Endangered Species Act (ESA), Clean Water Act and legislation that protects many rivers as "wild and scenic." These laws have made it more difficult to develop traditional water projects.

While there remains broad general support for such environmental regulations, the restrictions they impose have sparked more criticism in recent years. The ESA, in particular, has required major changes in water project operations as officials try to protect several endangered species, including the winter-run chinook salmon.

Because more water is being used for environmental purposes, there often is less for traditional farming and municipal uses. This has heightened the competition for this precious resource.



*Wetlands filter pollutants from water, store flood waters, recharge groundwater aquifers, and support migratory waterfowl.*



*A legal battle over Mono Lake, located in eastern Sierra Nevada, established that the public trust doctrine applies to water rights. The doctrine holds that natural resources are the property of all, and in 1994, Los Angeles was ordered to restrict its water diversions until the lake's level rises.*



## Alternative Water Sources

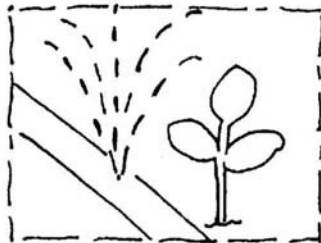
Officials estimate that by 2020, California's current population of 32 million will reach 47.5 million, and as the state grows, so will the demand for water. Officials are pursuing several options to

stretch water supplies to meet demand. One way of stretching water supplies is through water conservation (see page 10).



*Southern California leads the state in treating wastewater and reusing it to water golf courses, parks and landscapes or refill depleted groundwater basins.*

*Agriculture has increased use of drip irrigation and other methods to conserve water.*



Water recycling—the treatment and reuse of municipal wastewater—to irrigate fields, water golf courses and recharge groundwater aquifers is seen as a key way to “create” more water. By 2020, state officials say that water recycling programs could provide an additional 1 million acre-feet of water annually.

Converting salt water into fresh water—sea water desalination—was once commonly viewed as too expensive a source of drinking water.

During the 1987–1992 drought, three coastal communities developed desalination plants to offset severe water shortages. New technology could lead to more desalination plants in the future.

Water marketing or transfers—exchanging, leasing or selling water from one user to another—is slowly gaining support in California. Many concerns about third-party economic impacts, instream environmental water needs and legal constraints remain.

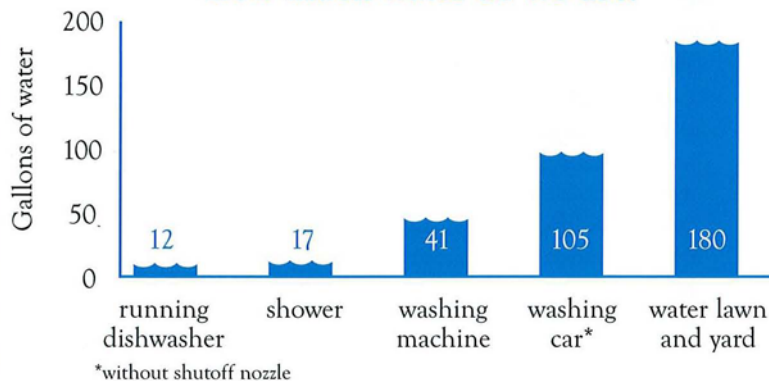
## Water Trivia

### The earth's water supply

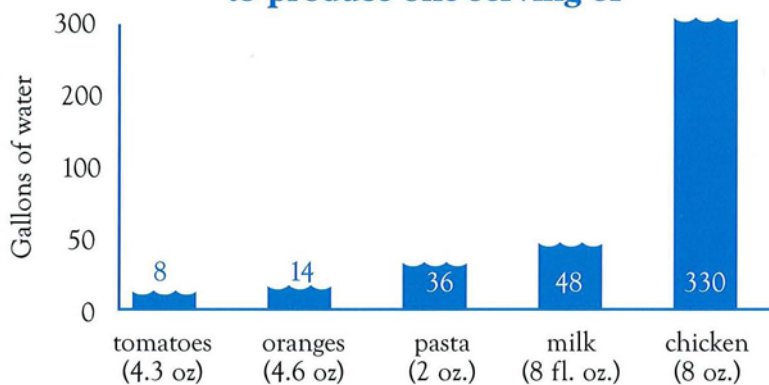
Salt Water	97.2%
Fresh Water	2.8%
Groundwater	0.6%
Lakes and Streams	0.01%
Glaciers and Icecaps	2.2%
Water Vapor	0.001%

**Amount of water  
contaminated by  
1 quart of oil =  
250,000 gallons**

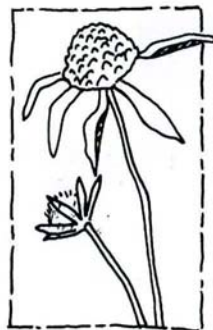
### How much water do we use?



### How much water does it take to produce one serving of



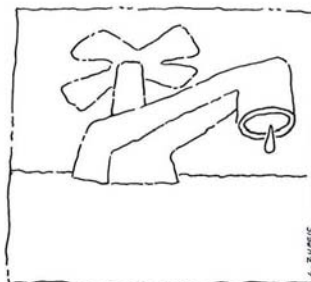
## Saving Water At Home



With watering the yard, filling the swimming pool or hot tub and washing the car, outdoor water needs consume about half the water used in a typical single-family home. Xeriscape — landscaping with plants that use less water — has become a popular way for people to cut outdoor water use by as much as 50 percent.

Another approach is the use of landscape “water allowances.” Customers have a set amount of water to use and can plant whatever they want—water rate charges encourage the use of water-efficient irrigation systems.

While half of residential water is used outdoors, big savings also can be made indoors — especially in the bathroom. A national study shows that the toilet accounts for 26.7 percent of the average household’s indoor water use. A traditional toilet can be the biggest water-using fixture in the house, consuming about 3.6 gallons per flush. Ultra-low-flush toilets use about 1.5 gallons per flush. After the toilet, the biggest bathroom guzzler is the shower or bathtub. An eight-minute shower with a 2.2 gallon-per-minute showerhead can use 17 gallons of water. A bath, on the other hand, uses 24 gallons.



In the kitchen, a typical dishwasher uses between 8 and 15 gallons of water. New, water-efficient styles can use as little as 6 gallons per load. In the laundry room, a typical clothes washer uses 41 gallons per load. High-efficiency clothes washers reduce the average volume per load by 40 percent.

Per capita residential water use in California varies considerably, from about 290 gallons a day for Central Valley cities to about 150 gallons per day for some Central Coast communities.

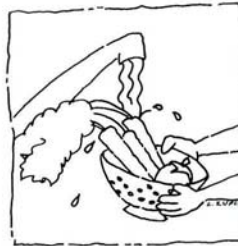




## Water Conservation Tips



Wash the car only with a bucket and hose equipped with a shutoff nozzle or at a commercial car wash that uses recycled water.



Do not leave the water running while brushing teeth, shaving, washing dishes, defrosting food or cleaning produce.

Do not over-water the lawn or allow water to run into the street.

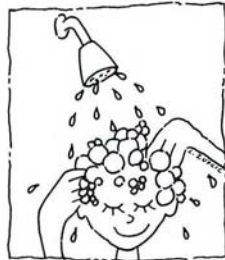
Install an ultra-low flush toilet or toilet tank displacement bag.

Detect leaks and repair them within 48 hours.

Do not hose down sidewalks or driveways.

Wash only full loads of laundry and dishes.

Do not use the toilet to flush trash.



Install a water-saving showerhead.



Only water outdoors in the early morning or evening.



WATER EDUCATION FOUNDATION  
717 K Street, Suite 317  
Sacramento, CA 95814  
Phone (916) 444-6240  
Fax (916) 448-7699  
Internet: [www.watereducation.org](http://www.watereducation.org)

Item	Qty.	\$ Amount
California Water Map, \$10 ea.	_____	_____
Water Awareness Guide, \$3 ea.	_____	_____
Layperson's Guide to California Water, \$7 ea.	_____	_____
Subscription to <i>Western Water</i> , \$35/yr.	_____	_____
Catalog	_____	no charge
Subtotal	_____	_____
Add 7.75% sales tax	_____	_____
Shipping & handling	_____	_____
Orders from \$0-\$10-\$3.50; \$10.01-\$50-\$6.50; \$51.01-\$100-\$9.50; \$100.01-\$250-\$12.50; \$250.01-\$600-\$25; over \$600-call for charge	_____	_____
Total enclosed	_____	_____

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Street Address \_\_\_\_\_  
City/State/Zip \_\_\_\_\_

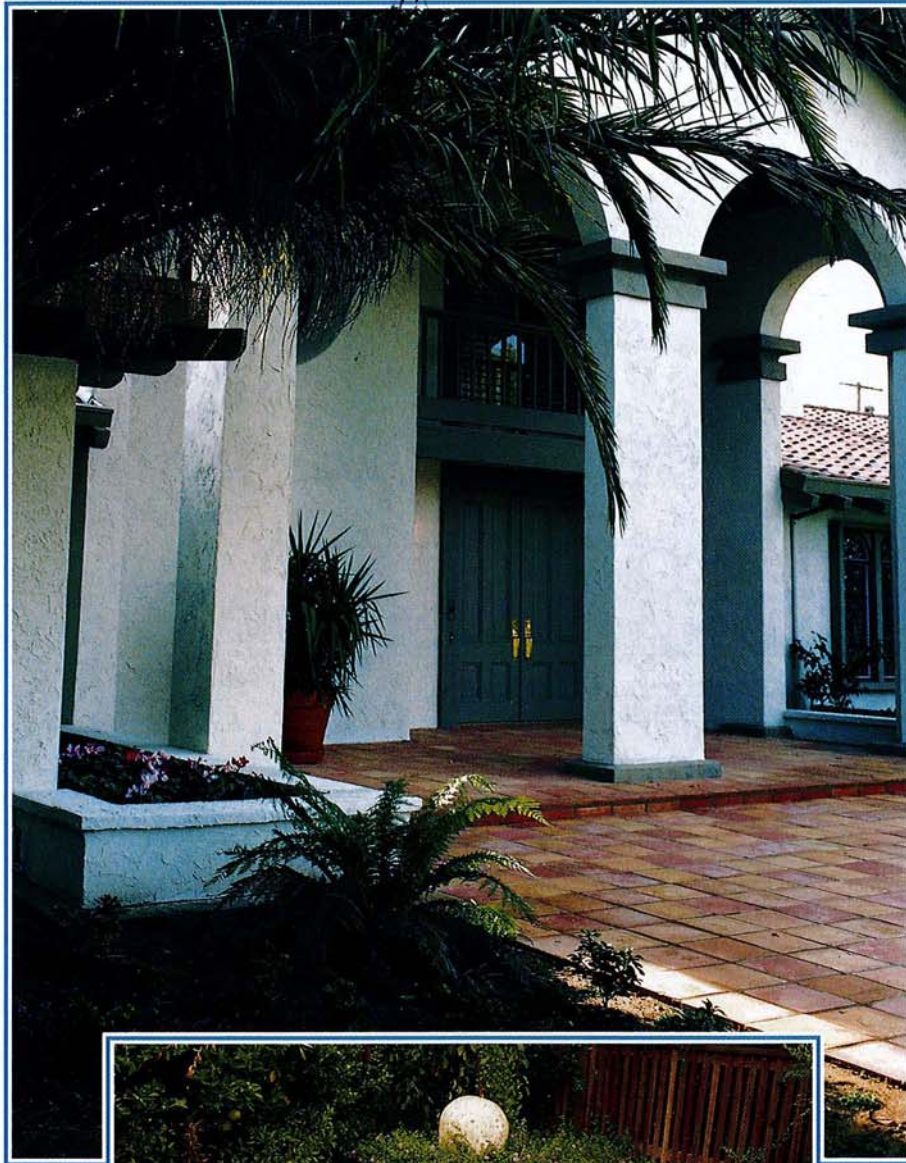
Credit card number for Visa, Mastercard or AmEx orders  
\_\_\_\_\_ exp. date \_\_\_\_\_

Signature \_\_\_\_\_  
(Must be signed to process credit card order)

Return to the Water Education Foundation



# LANDSCAPE DESIGN II



RE-DO YOUR LANDSCAPE  
THE EASY AND EFFICIENT WAY



# BEGINNING CONSIDERATIONS

## WHY RE-DO YOUR LANDSCAPE?

Lifestyles are rapidly changing in our society, and landscapes are changing as well. Families are not interested in spending a great deal of time on the upkeep of their yards. On the other hand, they want green outdoor spaces for resting places, entertaining and family activities.

Whether you're doing it yourself or having it done, renovating your landscape can extend your living space, add new usage areas to your yard, help cut down on the time you spend on maintenance, and drastically reduce water use.

Almost half of the water used in a single-family home goes on the landscape. Low water-using landscapes can reduce landscape watering by half, often quite a savings on the monthly water bill.

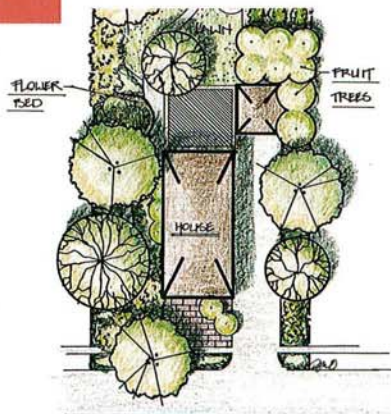
## B. BEFORE YOU DIG IN

### PLAN IT

You'll need to start with a master plan based upon your site and your requirements for your yard. Visits to botanical and demonstration gardens that emphasize water-efficient plants, irrigation systems and design can give you ideas to start out with.

First assess your site. Look at soil conditions, drainage, wind, sun, slopes and water-use areas. Next, assess your needs — what uses you will make of your outdoor space. Ask yourself these questions:

- ▼ What do you like most and least about your current landscape?
- ▼ How do you and your other family members plan to use the landscape and its new spaces? Relaxation? Outdoor cooking? Entertaining? Gardening? Swimming? Sports? Etc.?
- ▼ If you have children, what specific uses will they be growing into or out of?
- ▼ What about pets? Do you want them shut out or let into specific areas?
- ▼ Is there some particular landscape style (i.e., formal, Japanese, natural, etc.) you want to use? Is that style in keeping with the structure of your home?
- ▼ Is anyone in your family allergic to any plants or to bees?
- ▼ Does your site require any additional screening to ensure privacy?
- ▼ How much money have you budgeted for improvements?



### SKETCH IT

Now use graph paper to draw up a model showing property boundary lines, house, fences, existing trees and shrubs and walkways. Also show the sun, soil, drainage and wind zones from your assessment. Most importantly, divide your existing landscape into low, moderate, and high water-use zones according to the following guidelines. (Your goal is to reduce the size of your high water-use areas while increasing the size of moderate to low water-use areas.)

▼ The highest water-use area of your yard is, in most cases, your lawn. Think about ways to reduce the size of your lawn by replacing it with areas of hardscape and less-thirsty groundcover, shrubs and trees. On your renovated landscape, your lawn can then be an oasis of green designed in the shape of a rounded, pool-like focal point, rather than a boring expanse.

▼ Moderate water-use areas include plants like groundcovers, annuals, vegetable gardens, and water-conserving plants with mulch. Such areas should be timer-watered or watered manually, as needed, using sprinkle or drip irrigation.

▼ Low water-use areas include *established* water-conserving trees and shrubs with mulch, and can be drip irrigated very infrequently once they are established.

▼ No water-use areas include hardscapes and some established native plants.

Once you have your "base map" completed, trace it and then draw in the new features you want your landscape to have (or have a professional do this). As you choose each element for your yard or patio, consider how it fits in with your total plan. Once you've got your plan, you can prioritize, in terms of your budget, how to go about completing the project. (This brochure includes a sample design which was completed in a three-year process.)



# HOW TO RE-DO YOUR LANDSCAPE IN STAGES

## CLEAR IT

Remove any unwanted structures and/or plants.

## BUILD IT

A good overall plan for your project should include an irrigation system that can accommodate your landscape as it is now as well as the design of your renovated landscape. Install it using these guidelines:

- ▼ Use separate irrigation valves and timing schedules for areas of low, moderate, and high water use.
- ▼ Your high water-use lawn will be most water-efficient if your sprinklers are on automatic timers.
- ▼ Moderate and low water-use areas should be irrigated using drip, ooze, or bubbler systems. (Your local do-it-yourself store, hardware store, or nursery should have brochures outlining how to install these.)
- ▼ Experts point out that *all* irrigation is more efficient on some type of automated timer — as long as you reset your timer as the seasons, and your yard's water requirements, change.
- ▼ Proper forethought will help you avoid having to figure out how to install a watering system *around* any new hardscapes you might add. (You can put PVC sleeves *under* them if you plan ahead.)

Next add in the hardscape areas that will help you reduce the size of your lawn. Use hardscapes like decking and walkways in conjunction with larger areas of low water-use plants. Hardscape materials include wood, flagstone, river stone, pavers and concrete.

## PLANT IT

Planting just before or during the rainy season is best because it reduces transplant shock and allows the plants' roots to establish at greater depths so that summer drought is not as damaging. Remember that even non-thirsty plants require water until they are established.

It's important to group plants with similar watering, sun, and soil pH needs together. If you disperse low water-using plants with plants requiring more water, you may end up over-watering the less thirsty plants. If in doubt, ask a professional which plants "go together" in the different areas of your landscape.

When choosing plants, think in terms of their ultimate size. If you are concerned about the barren look of your landscape before it "grows in," and want more of an instant effect, consider planting fast-growing temporary plants with the permanent ones. As the permanent ones fill out, you can then remove the temporary ones.

Mulch, material added on top of the soil, buffers the soil from extreme temperatures, traps moisture and keeps water-robbing weeds down. Mulching materials include wood chips, fir bark, and fine gravel. To be efficient, mulch should be applied to a depth of two to six inches.

## MAINTAIN IT

Water according to your plants' needs and adjust irrigation timers to match weather patterns. Contact your local water utility, county cooperative extension office, or nursery for tips on watering schedules in your particular area.

## NEED HELP?

Many of the projects undertaken in a landscape renovation are well within the abilities of do-it-yourselfers. A little elbow grease and commitment can help you save on the costs of labor and leave more money for plants. But doing it yourself has disadvantages, too. A project that might take a few weeks in the hands of a landscape contractor can stretch into months or years if you only have weekends to devote to it. Remember, too, that certain design elements, like decking and irrigation systems, may require building permits. If the idea of doing it *all* yourself seems a little overwhelming, consider, at the very least, having designs drawn for you by a professional. You might also opt for finding a professional who will allow you to do some of the labor yourself. Also, many pros will do "consultation" visits, offering information to get you started.

## HOW TO FIND A REPUTABLE PRO

If you do opt for working with a professional, you'll need to know how to select one.

There are two types of licensed professionals with whom you might want to deal on your renovation project: landscape architects, who usually design large outdoor spaces; and landscape contractors, who build landscapes. Landscape designers may have as much formal training as the licensed professionals, but have not obtained licensing as architects or contractors.

The California Landscape Contractors Association has several brochures on finding and hiring a qualified person to install your landscape. They will also send you a list of licensed contractors in your area and their specialties. You can then call for pricing information.

The California Council of Landscape Architects provides similar information.

A local nurseryman can help with how-to advice, tell you which water-conserving plants will work in *your* area, and provide you with equipment, materials and plants. The California Association of Nurserymen has a certification program and can tell you which local nursery has certificated people available. (See the *RESOURCES* section of this brochure for the addresses of CLCA, CCLA, and CAN.)





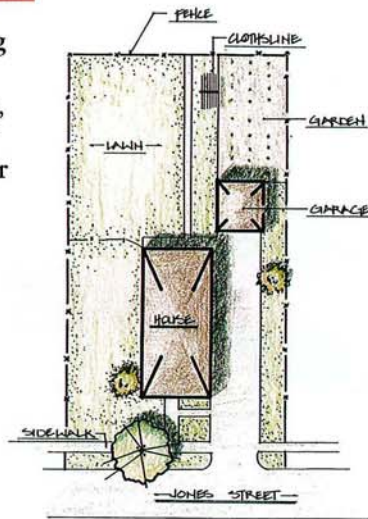
# A

# 3-YEAR PLAN

## BEGIN...

By analyzing existing landscape with an eye toward function, aesthetics, and how to cut back on water usage.

Develop a plan designating the finished elements, hardscapes and plantings.



## YEAR 1

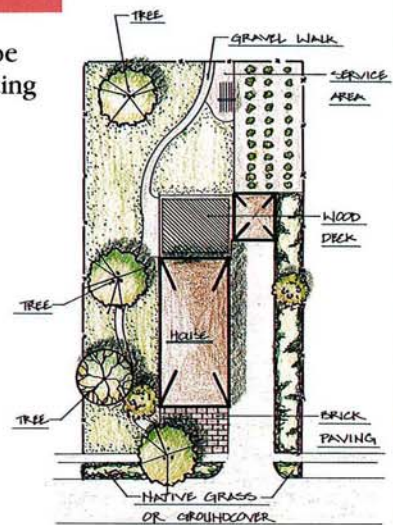
Install all hardscape and renovate existing irrigation.

Then add:

- ▼ Shade Trees
- ▼ Groundcover

Reduce:

- ▼ Lawn Areas



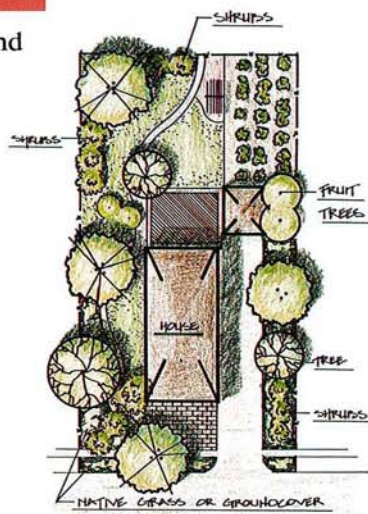
## YEAR 2

Adjust irrigation, and add:

- ▼ More Shade Trees
- ▼ Shrubs
- ▼ Groundcover

Reduce:

- ▼ Lawn Areas



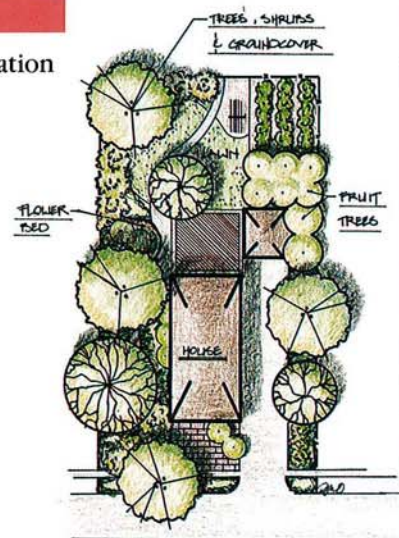
## YEAR 3

Finely adjust irrigation and add more:

- ▼ Shade Trees
- ▼ Shrubs
- ▼ Groundcover

Further Reduce:

- ▼ Lawn Areas





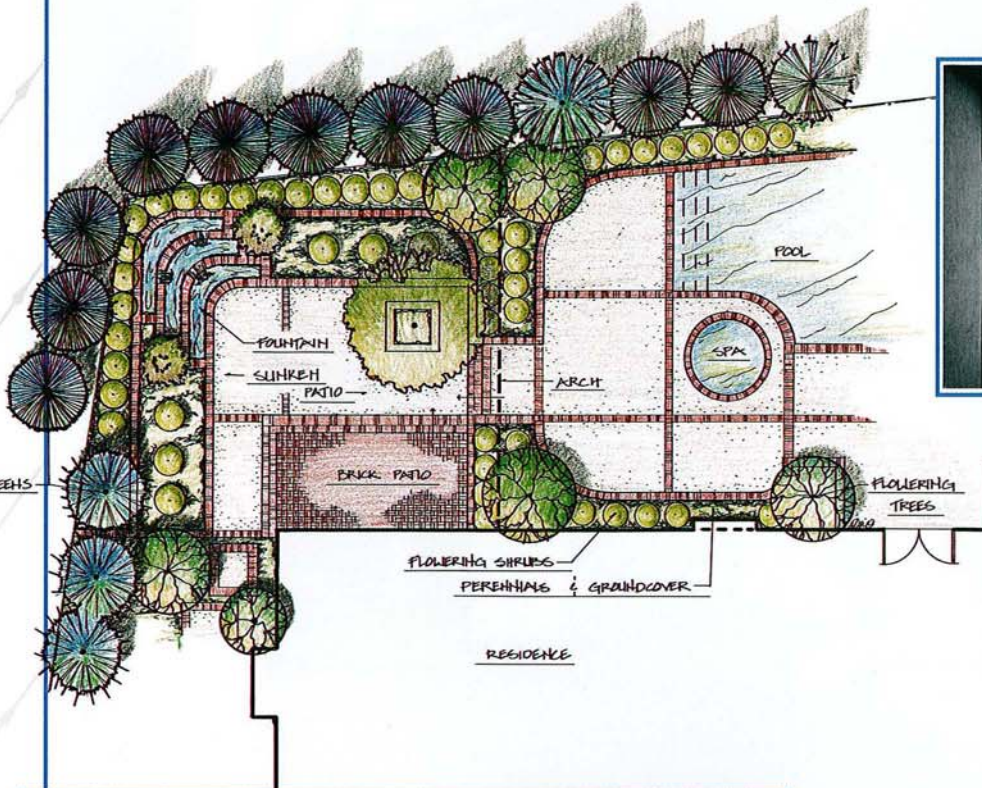
# FROM PUBLIC PATCH

TO

# PRIVATE PARADISE

This long, narrow back yard had myriad problems: no privacy on the side yard, a view of a neighbor's house and an electric utility power station and major drainage problems. Renovated with no use of grass whatsoever, the

yard is green, lush and colorful year-round. The fountain recirculates water and all irrigation is drip. The fence and extensive use of brick lend a French country feeling to the low-maintenance, functional yard.



**BEFORE**

## SITE 3



**AFTER**





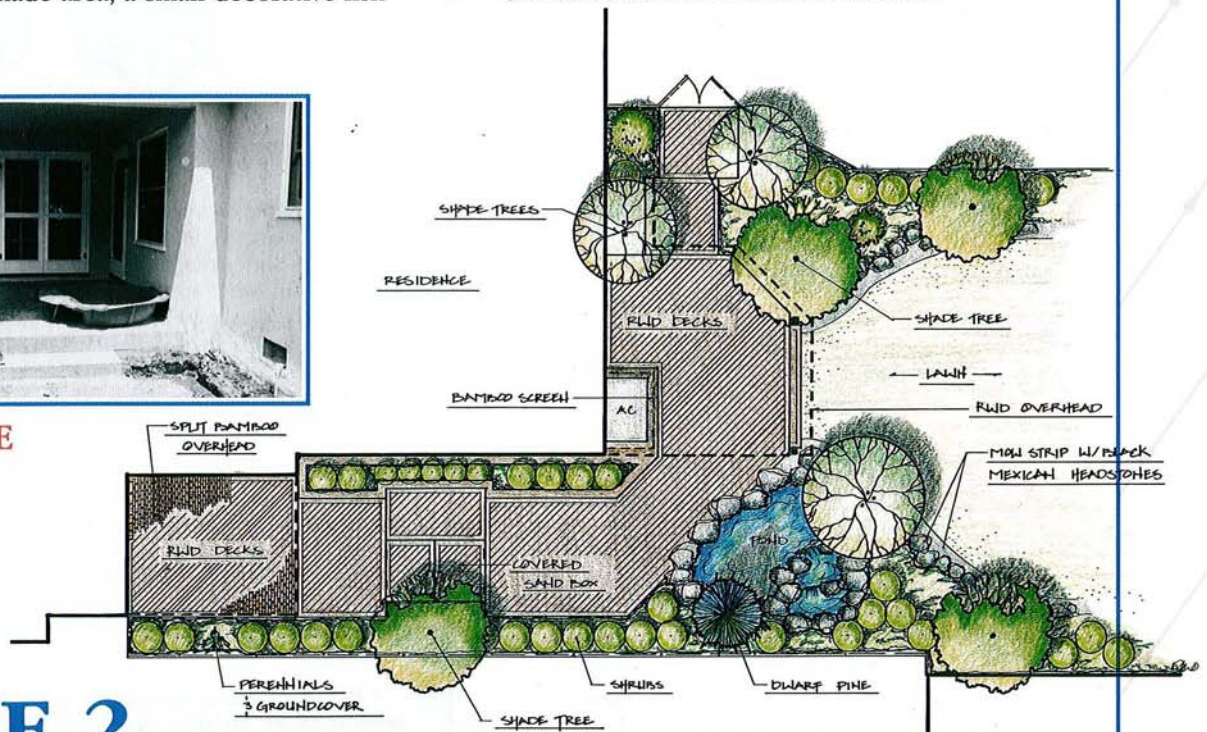
# FROM BORING 'BURB TO FUNLAND

This existing back yard was all water-thirsty lawn with a small concrete pad. The space was re-designed with an oriental flavor and defined to provide for the many activities of an active young family. The addition of a large entertainment area, a shade area, a small decorative fish

pond in which the children can wade, and a sand box that closes up to become part of the deck all serve to lower the yard's water requirements. An added bonus — the trellis overhead to the south reduces the heat load on the house in hot summer months.



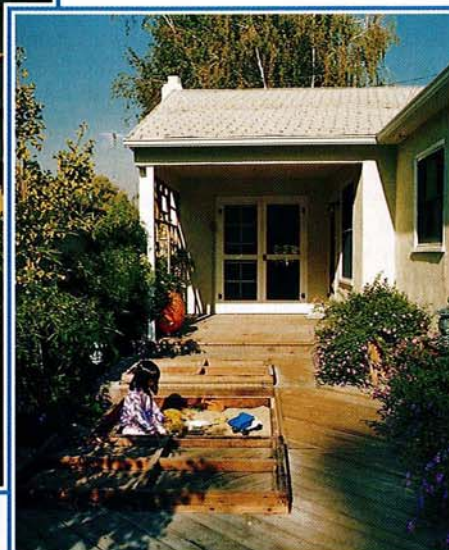
**BEFORE**



**SITE 2**



**AFTER**





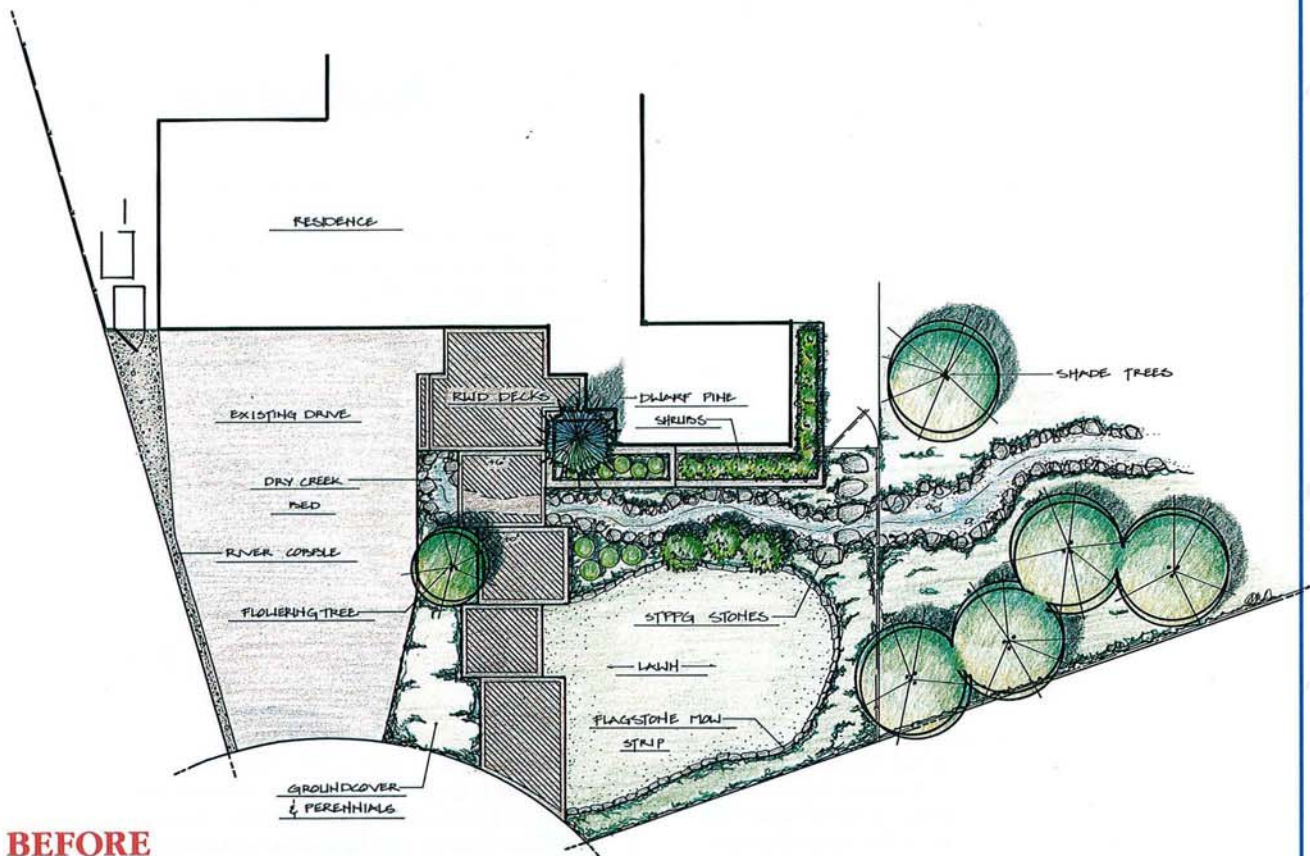
**FROM DULL AND DREARY**

**TO**

**VIVID VITAL**

The goals of this renovation were to reduce the lawn area, solve a drainage problem and add color and interest. The renovation includes a much more extensive entry walkway with lighting and large redwood pads. A functional dry creekbed further reduces lawn area while

non-thirsty perennial and groundcover plantings add color and interest. The use of plants native to the area and the overall design of the renovation combine to give a natural feeling to this water-efficient front landscape.



**AFTER**



**SITE 1**



# WATER-SAVING PLANTS

THESE COMMON PLANTS NEED VERY LITTLE WATER AND CAN BE GROWN ALMOST ANYWHERE IN CALIFORNIA. This is just a sampling of plants: there are many others that will thrive in your local area.

## GROUND COVERS

Yarrow  
Manzanita  
Snow in Summer  
Chamomile  
Indian Strawberry  
Fleabane  
Sulfur Flower  
Coral Bells  
Spreading Juniper  
Evening Primrose  
Lavender Cotton  
Santolina  
Thyme

## PERENNIALS, ANNUALS, BULBS

Allium  
Alyssum  
Windflower  
Thrift (Sea Pink)  
Cosmos  
Foxglove  
Blanket Flower  
Daylily  
Iris  
Lily  
Daffodil  
California Poppy  
Rose Moss  
Lamb's Ear

## SHRUBS

Manzanita  
Strawberry Tree  
Sandhill Sage  
Dusty Miller  
Ceanothus  
Rock Rose  
Sunrose  
Juniper  
Mountain Mahogany  
Smoke Tree  
Oregon Grape  
Toyon-Christmas Berry  
Coffeeberry

## TREES

Maidenhair Tree  
Golden Rain Tree  
Crape Myrtle  
Holly Oak  
Locust  
Hackberry  
Japanese Pagoda Tree  
Chinese Flame Tree  
Chinese Pistache  
Western Redbud  
Incense Cedar

## GRASSES

Tall Fescues  
Hybrid Bermudas  
Saint Augustine  
Zoysia

## RESOURCES

- ▼ Your local cooperative extension office can offer answers to your specific gardening questions. Look under "County" in your telephone book white pages for their number.

- ▼ The California Landscape Contractors Association can help you find a licensed contractor in your area to help install your landscape. CLCA is located at:

**CLCA**  
2021 N St., Ste. 300  
Sacramento CA 95814

**Phone (916) 448-2522**

- ▼ The California Association of Nurserymen will help you find certified, knowledgeable people in your area who can help you choose plants, supplies and equipment.

**CAN**  
3947 Lennane Dr., Ste. 150  
Sacramento, CA 95834

**Phone (916) 928-3900**

- ▼ The UCD Cooperative Extension "Agricultural Publications Catalogue" lists many helpful publications on such topics as pruning, soils, fertilization, and irrigation. Many are free or can be purchased for a nominal amount. Order from:

**ANR Publications**  
University of California  
6701 San Pablo Ave.  
Oakland, CA 94608-1239

**Phone (510) 642-2431**

- ▼ *Sunset Magazine* has a packet of information about water efficient landscapes. Write:

**Sunset Magazine**  
80 Willow Road  
Menlo Park, CA 94025-3691

- ▼ Your local water agency or district should be able to provide you with information about plants and watering specific to your area.

*For more copies and other information on water issues  
contact the Water Education Foundation.*



**WATER EDUCATION**

717 K Street, Suite 517  
Sacramento, CA 95814  
(916) 444-6240  
Internet: [www.water-ed.org](http://www.water-ed.org)

**Compliments of:**  
Georgetown Divide  
Public Utility District  
6425 Main Street  
333-4356



## Outdoor Water Conservation Checklist

### FREE AND EASY IDEAS

- Water your lawn only when needed, 2-3 days a week at most. If you step on your lawn and the grass springs back, it does not need to be watered.
- Water early in the morning when temperatures and winds are at their lowest levels to reduce evaporation.
- Turn off your sprinklers when it rains. Rain sensors and shutoff switches are inexpensive and can be retrofitted to almost any system.
- See the indoor water conservation checklist for ways to capture otherwise wasted water to use for watering potted plants.
- Don't water the gutter. Runoff is wasteful and can carry pollutants to creeks.
- Check your irrigation monthly for:
  - ✓ Spray heads blocked by plant growth or clogged with debris
  - ✓ Poorly aimed nozzles/misaligned and tilted heads/incorrect arc (adjust at head)
  - ✓ Mixed heads (each station should only have one kind of head)
  - ✓ Overspray (adjust flow through the valve, use different nozzles, or adjust the flow control screw on the nozzle itself)
  - ✓ Broken heads (water leaks from the seal around the pop-up stem), broken parts (some expense)
  - ✓ Heads that weep even when off (due to a faulty valve or the lack of check valves)
  - ✓ Sunken heads in a lawn (may need taller risers or turf may need dethatching – some expense)
- Reset your irrigation timers four times a year as the seasons change. Most homeowners overwater each fall by 25% or more because they don't readjust at the end of September when solar radiation is already halfway to winter lows.
- Use a trigger nozzle on hoses so water won't run except when you intend it to.
- Teach children that hoses and sprinklers are not toys. Restrict or eliminate use of hose-end water toys.
- Use a broom to clean driveways and other hardscape.
- Schedule each individual zone in your irrigation system to account for the type of plant, sprinkler, sun exposure and soil type for the specific area. The same watering schedule rarely applies to all zones in the system.
- Remove dying plants and weeds that compete for available water.
- Maintain sharp blades on pruning shears and lawn mowers to reduce plant water loss.
- Aerate lawns and apply compost periodically to decrease compaction and improve penetration of water, air and nutrients into root zones. Lawns need aeration when water pools or runs off after only a few minutes of watering.
- Avoid installing water features. Even recycled water evaporates.





## INEXPENSIVE OR MODERATE EFFORT REQUIRED

- Mulch flower and garden areas, as well as tree and shrub bases.
- Avoid planting turf or installing spray irrigation in areas that are difficult to water without runoff, such as isolated strips along sidewalks and driveways and on slopes.
- At least once a year, confirm that all irrigation systems are distributing water uniformly and inspect, repair, and/or adjust subsurface or drip watering systems.
- Immediately shut off irrigation system(s) and adjust whenever irrigation water falls or runs onto hard surfaces such as sidewalks, streets or driveways.
- Repair all leaks as soon as detected, including hose couplings.
- Plant drought-tolerant or low-water plants for landscaping.
- Cover pools, spas and other water features when not in use to minimize evaporation. A good pool cover will save energy by up to 90% and water by up to 70%, saving nearly 1,000 gallons of water per month.
- Seasonally check pools and spas for leaks, which can lose up to 1,000 gallons a day. Symptoms of leaks include water level drops over 2 inches per week in the summer (with automatic filling off) or increased need for chemicals.
- The more frequently swimming pool filters are cleaned, the less often you'll need to replace the pool water.

## GOOD WATER SAVING INVESTMENTS

- Install a weather-based irrigation controller and efficient nozzles. Your local water agency may offer rebates.
- Reduce the amount of lawn you have, especially where it isn't used for play.
- Plant drought-tolerant and native plants.
- Employ a certified landscape-irrigation auditor to conduct a thorough and comprehensive check for efficiency of water application. He or she can inspect and tune your system to ensure optimal efficiency.
- Replace lawns with artificial turf.
- Determine specific water requirements for all existing landscape plants, and water accordingly. Plants with the same water needs should be planted and irrigated together so you don't have to overwater some to give the rest enough.
- Water all plants deeply but infrequently to encourage deeper, healthier rooting.
- Install drip irrigation for trees, shrubs, slopes and narrow spaces.
- Replace pool filters with newer water conserving models. A single back-flush with older models uses 180-250 gallons of water.
- Harvest water from rainfall for landscape irrigation purposes. Systems can range from rain barrels to underground cisterns.





## Indoor Water Conservation Checklist

### FREE AND EASY IDEAS

#### Kitchens

- Don't leave the faucet running while you rinse or wash dishes.
- Scrape food from dishes first, then rinse only as much as needed. Rinsing in a second sink or tub uses less water than rinsing under a faucet.
- Limit use of the garbage disposal. Save food scraps to run the garbage disposal only once, or save more water by composting.
- Operate the dishwasher only when it is fully loaded. Each dishwasher cycle uses 9-25 gallons of water, depending on the model.
- Capture and use otherwise wasted water (waiting for water to warm or cool, vegetable or dish water). Soapy water is generally OK for watering plants as long as there is no bleach or borax.
- Keep a water bottle in the refrigerator for drinking instead of running tap water until cold.

#### Bathrooms

- Toilets use 27% of average indoor household water. Don't use toilets as waste baskets or ash trays.
- Showers use 17% of indoor water. Take shorter showers, five minutes or less. Turn shower water off except to wet before soaping, then again for rinsing.
- Cut down on bathtub use or fill the tub to a lower level.
- Capture the initial cold water in a bucket to water potted plants. Turn it all the way to hot until you get the temperature you want to decrease the wait.
- Faucets use 16% of indoor water. Only run water when actually using it.
- Turning off the tap while brushing your teeth or shaving can save more than 200 gallons of water each month.
- Rinse your razor in a partially filled sink instead of running the water.
- Teach children to turn water faucets off quickly and tightly after each use.



#### Laundry

- Clothes washers consume 22% of indoor water. Wash only full loads of laundry. Each washing cycle uses 20 – 40 gallons of water, depending on the model of the machine.
- Teach children to change into play clothes after school so that school clothes can be worn more than once before washing.



- Leaks consume 14% of average indoor water use. Check for and repair toilet leaks, which can waste as much as 200 gallons a day.
  - ✓ Put food coloring in the tank and wait. If color shows in the bowl you have a leak.
  - ✓ Adjust or replace the flapper. If you hear the toilet running but color didn't appear in the bowl, adjust the float arm to below the overflow line.
  - ✓ If it still leaks, call a plumber.
- Check and repair faucet and pipe leaks. You can check your entire system by turning everything off and seeing if the water meter still shows flow.
- Install low-flow shower heads and faucet flow restrictors (aerators). You can purchase quality, low-flow fixtures for around \$10 to \$20 each and achieve water savings of 25%–60%.
- Replace older toilets with 1.28 gallons-per-flush high efficiency toilets.
- Install a circulating hot water system with a timer.
- Replace traditional clothes washers with new, energy- and water-conserving machines that use less than 27 gallons of water per load.
- Insulate hot water pipes. Running the "hot" line to clear cool water is wasteful.



# WAYS TO SAVE WATER

ACTIVITY	NORMAL USE	CONSERVATION USE
SHOWER	Water Running  25 GALLONS	Wet down, soap up, rinse off  4 GALLONS
BRUSHING	Tap Running  10 GALLONS	Wet brush, rinse briefly  1/2 GALLON
TUB BATH	Full  36 GALLONS	Minimal Water level  10-12 GALLONS
SHAVING	Tap running  20 GALLONS	Fill basin  1 GALLON
DISHWASHING	Tap running  30 GALLONS	Wash and rinse in dishpans or sink  5 GALLONS
AUTOMATIC DISHWASHER	Full cycle  16 GALLONS	Short cycle  7 GALLONS
WASHING HANDS	Tap running  2 GALLONS	Fill basin  1 GALLON
TOILET FLUSHING	Depending on tank size  5-7 GALLONS	Using tank dis- placement device  4-6 GALLONS
WASHING MACHINE	Full cycle, top water level  60 GALLONS	Short cycle, minimal water level  27 GALLONS

# GEORGETOWN DIVIDE PUD

P.O. Box 4240  
Georgetown, CA 95634  
(530)333-4356

## In the Home

Water is essential to each of us every day. But it's a limited resource, so we all need to rethink the way we use water on a daily basis. By following these water-saving tips inside your home, you can help save water every day, whether or not California is in a drought:

### Laundry Room

- Use the washing machine for full loads only to save water and energy
- Install a water-efficient clothes washer

**Save:** 16 Gallons/Load

### Kitchen

- Run the dishwasher only when full to save water and energy.
- Install a water- and energy-efficient dishwasher.

**Save:** 3 to 8 Gallons/Load

- Install aerators on the kitchen faucet to reduce flows to less than 1 gallon per minute.

### Bathroom

- Install low-flow shower heads.

**Save:** 2.5 Gallons

- Take five minute showers instead of 10 minute showers.

**Save:** 12.5 gallons with a low flow showerhead, 25 gallons with a standard 5.0 gallon per minute showerhead.

- Fill the bathtub halfway or less.

**Save:** 12 Gallons

- Install a high-efficiency toilet.

**Save:** 19 Gallons Per Person/Day

- Install aerators on bathroom faucets.

**Save:** 1.2 Gallons Per Person/Day

- Turn water off when brushing teeth or shaving.

**Save:** Approximately 10 Gallons/Day

- Don't use the toilet as wastebasket.



# Outdoors

There are lots of ways to save water, but reducing the water you use outdoors can make the biggest difference of all. By making a few easy changes to the way we use water outside our homes – like watering lawns only when needed, adjusting sprinklers to avoid watering sidewalks and using a broom instead of a hose – you can save a significant amount of water every day.

## Landscape

- Water early in the morning or later in the evening when temperatures are cooler.

**Save: 25 gallons / each time you water**

- Check your sprinkler system frequently and adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.

**Save: 15-12 gallons / each time you water**

- Choose a water-efficient irrigation system such as drip irrigation for your trees, shrubs, and flowers.

**Save: 15 gallons / each time you water.**

- Water deeply but less frequently to create healthier and stronger landscapes.

- Put a layer of mulch around trees and plants to reduce evaporation and keep the soil cool. Organic mulch also improves the soil and prevents weeds.

**Save: 20-30 gallons / each time you water / 1,000 sq. ft.**

- Plant drought-resistant trees and plants.

**Save: 30- 60 gallons / each time you water / 1,000 sq. ft.**

- Information about evapotranspiration (ET) and weather based irrigation controllers is available at: <http://www.cuwcc.org>. and [www.cimis.water.ca.gov](http://www.cimis.water.ca.gov)

## Cleanup

- Use a broom to clean driveways, sidewalks and patios.

**Save: 8-18 gallons / minute**

- Wash cars/boats with a bucket, sponge, and hose with self-closing nozzle.

**Save: 8-18 gallons / minute**

## Activities

- Teach children that the hose and sprinkler are not toys.
- Install a pool/spa cover to reduce evaporation and filter backwash.

**Save: 30 gallons / day**

- Test pool and spa water frequently and maintain appropriate chemical balances to avoid the need to drain it except for structural repairs. Check your pool and pool plumbing for leaks.

## **Appendix H - District Ordinance 82-1**

ORDINANCE 82-1

AN ORDINANCE ESTABLISHING RATES, RULES AND REGULATIONS FOR WATER SERVICE BY AND WITHIN THE GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT AND REPEALING ORDINANCE NOS. 77-10, 79-1, AND 81-1 RELATING TO SUCH RATES, RULES AND REGULATIONS

WHEREAS, the public interest, convenience and necessity requires that the provisions of the following ordinances heretofore adopted by the Board of Directors of the Georgetown Divide Public Utility District be consolidated, changed in certain respects, to wit: Ordinance 77-10, An Ordinance Establishing Rates, Rules, and Regulations for Water Service By and Within the Georgetown Divide Public Utility District and Repealing Ordinance Nos. 72-4, 74-7, 75-2, 75-4, 76-3, 77-4 and 77-5 Relating to Such Rates, Rules and Regulations, adopted on October 13, 1977; Ordinance 79-1, An Ordinance Amending Ordinance 77-10, An Ordinance Establishing Rates, Rules and Regulations for Water Service By and Within the Georgetown Divide Public Utility District, and Repealing Ordinance Nos. 72-4, 74-7, 75-2, 75-4, 76-3, 77-4, and 77-5 Relating to Such Rates, Rules and Regulations, by Amending Article 16 Thereof Relating to Pipeline and Storage Benefit Charges, adopted on February 16, 1979; and Ordinance 81-1, An Ordinance Establishing Rates, Rules and Regulations for Water Service By and Within the Georgetown Divide Public Utility District, and Repealing Ordinance Nos. 77-10, and 79-1 Relating to Such Rates, Rules and Regulations, adopted on February 4, 1981;

NOW, THEREFORE, BE IT ENACTED by the Board of Directors of the Georgetown Divide Public Utility District, El Dorado County, California, as follows:

ARTICLE 1 - DEFINITIONS

For the purpose of this Ordinance, the terms used herein are defined as follows:

Sec. 1-1. Applicant is the person making application for water service and shall be the owner of premises to be served by the water facilities for which such service is requested, or his authorized agent.

Sec. 1-2. Board is the Board of Directors of the District.

Sec. 1-3. Building is any structure used for human habitation or a place of business, recreation or other purpose containing water facilities.

Sec. 1-17. Single Family Residential Premises means a lot or parcel of real property under one ownership which includes one or more separate single family residential structures.

Sec. 1-18. Commercial or Multi-Family Residential Premises means a lot or parcel of real property under one ownership which includes one or more apartment houses, motels, office buildings, commercial buildings, and structures of like nature.

Sec. 1-19. Public Fire Protection Service means the services and facilities of the entire water supply, storage, and distribution system of the District, including the fire hydrants affixed thereto, and the water available for fire protection, excepting house service connections and appurtenances thereto.

Sec. 1-20. Regular Water Service means water service and facilities rendered for normal domestic and commercial purposes on a permanent basis, and the water available therefor.

Sec. 1-21. Service Connection Charge means the benefit entitlement of the lot or parcel of real property to a connection from the water main line to the limits of the road or easements in which the pipelines are located.

Sec. 1-22. Service or Service Connection means the pipeline and appurtenant facilities such as the curb stop, curb cock or valve used to extend water service from a distribution main to premises, but exclusive of the meter and meter box. Where services are divided at the curb or property line to serve several customers, each such branch service shall be deemed a separate service.

Sec. 1-23. Single Family Unit means the water capacity normally needed to serve a single family residential unit or the equivalent water usage for buildings used for purposes other than single family residences. SFU means Single Family Unit.

Sec. 1-24. Street is any public highway, road, street, avenue, alley, way, easement, or right of way.

Sec. 1-17. Single Family Residential Premises means a lot or parcel of real property under one ownership which includes one or more separate single family residential structures.

Sec. 1-18. Commercial or Multi-Family Residential Premises means a lot or parcel of real property under one ownership which includes one or more apartment houses, motels, office buildings, commercial buildings, and structures of like nature.

Sec. 1-19. Public Fire Protection Service means the services and facilities of the entire water supply, storage, and distribution system of the District, including the fire hydrants affixed thereto, and the water available for fire protection, excepting house service connections and appurtenances thereto.

Sec. 1-20. Regular Water Service means water service and facilities rendered for normal domestic and commercial purposes on a permanent basis, and the water available therefor.

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Sec. 1-23. Single Family Unit means the water capacity normally needed to serve a single family residential unit or the equivalent water usage for buildings used for purposes other than single family residences. SFU means Single Family Unit.

Sec. 1-24. Street is any public highway, road, street, avenue, alley, way, easement, or right of way.

Sec. 1-25. Treatment Plant Connection Benefit Charge means a treatment plant capacity charge for benefits to a lot or parcel of real property under one ownership.

Sec. 1-26. Water Department means the Board of Directors of the District performing functions related to the District water service, together with the General Manager, the Water Superintendent, the Office Manager, and other duly authorized representatives.

#### ARTICLE 2 - GENERAL PROVISIONS

Sec. 2-1. Effective Area. Except as herein otherwise expressly provided, this ordinance shall apply to and be effective within the boundaries of the District.

Sec. 2-2. Rules and Regulations. The following rules and regulations respecting water construction and provision of water and connection to the water supply, storage, and distribution facilities of District are hereby adopted, and all work in respect thereto shall be performed as herein required and not otherwise.

Sec. 2-3. Purpose. This Ordinance is intended, among other things, to provide certain minimum standards, provisions, and requirements for design, methods of construction, and use of materials in water facilities and water service connections hereafter installed, altered, or repaired, and with respect thereto shall not apply retroactively, that is, in the event of an alteration or repair hereafter made, it shall apply only to the new materials and methods used therein.

Sec. 2-4. Short Title. This Ordinance shall be known and may be cited as "Georgetown Divide Public Utility District Water Ordinance."

Sec. 2-5. Words and Phrases. For the purpose of this Ordinance, all words used herein in the present tense shall include the future; all words in the plural number shall include the singular number; and all words in the singular number shall include the plural number.

Sec. 2-6. Pressure Conditions. All applicants for service connections or water service shall be required to accept such conditions of pressure and service as are provided by the distribution system at the

location of the proposed service connection, and to hold the District harmless from any damages arising out of low pressure or high pressure water service conditions or from any interruptions in service.

Sec. 2-7. Maintenance of Water Pressure and Shutting Down for Emergency Repairs. The Board shall not accept any responsibility for the maintenance of pressure and it reserves the right to discontinue service while making repairs, replacements, and connections or performing other work in the operation of the water system. Consumers dependent upon a continuous supply should provide emergency storage.

Sec. 2-8. Tampering with District Property. No one, except an employee or representative of the Board, shall at any time in any manner operate the curb cocks or valves, main cocks, gates or valves of the District's water system, or interfere with meters or their connections, street mains, or other parts of the water system.

Sec. 2-9. Penalty for Violation. For the failure of the customer to comply with all or any part of this Ordinance, and any ordinance, resolution, or order fixing rates and charges of this District, a penalty for which has not hereafter been specifically fixed, the customer's service shall be discontinued and the water shall not be supplied such customer until he shall have complied with the rule or regulation, rate or charge which he has violated, or in the event that he cannot comply with said rule or regulation, until he shall have satisfied the District that in the future he will comply with all the rules and regulations established by ordinance of the District and with all rates and charges of this District. In addition thereto, he shall pay the District the sum of Ten Dollars (\$10.00) for renewal of his service.

Sec. 2-10. Ruling Final. All rulings of the Board shall be final. All rulings of the General Manager shall be final, unless appealed in writing to the Board within five (5) days. When appealed, the Board's ruling shall be final.

Sec. 2-11. Relief on Application. When any person, by reason of special circumstances, is of the opinion that any provision of this



Ordinance is unjust or inequitable as applied to his premises, he may make written application to the Board, stating the special circumstances, citing the provision complained of, and requesting suspension or modification of that provision as applied to his premises.

If such application be approved, the Board may, by resolution, suspend or modify the provision complained of, as applied to such premises, to be effective as of the date of the application and continuing during the period of the special circumstances.

Sec. 2-12. Relief on Own Motion. The Board may, on its own motion, find that by reason of special circumstances any provision of this regulation and ordinance should be suspended or modified as applied to a particular premises and may, by resolution, order such suspension or modification for such premises during the period of such special circumstances, or any part thereof.

Sec. 2-13. Separability. If any section, subsection, sentence, clause, or phrase of this Ordinance, or the application thereof to any person or circumstance is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Ordinance or the application of such provision to other persons or circumstances. The Board hereby declares that it would have passed this Ordinance or any section, subsection, sentence, clause or phrase hereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared to be unconstitutional.

### ARTICLE 3 - WATER DEPARTMENT

Sec. 3-1. Creation. A Water Department has been heretofore created comprising the Directors and the following positions, to wit: The General Manager, a Water Superintendent, a District Inspector, and an Office Manager. The same person may be appointed to any or all of said positions. They shall be appointed to serve at the pleasure of the Board. If the same person is appointed General Manager and any other position, then said person shall be known as the General Manager and shall assume



and execute all the duties and responsibilities of each of the positions to which he is appointed.

Sec. 3-2. Plumbing, Water Facility, Inspection, Compensation.

The Board of said District shall employ the District Engineer or such other person as may be designated by the Board to perform the duties of inspecting the installation, connection, maintenance, and use of all water facilities in said District, to be known as the District Inspector. He shall receive, as compensation for his services for making inspections required to be made by the ordinances, orders, and regulations from time to time enacted and ordered by said Board, a sum to be fixed by the Board. He shall serve during the pleasure of the Board.

Sec. 3-3. General Manager. The General Manager shall have full charge and control of the maintenance, operation and construction of the water works and system. He shall, with the consent and approval of the Board, have authority to employ and discharge all employees and assistants. He shall prescribe the duties of employees and assistants. He shall perform such other duties as are imposed from time to time by the Board, and shall report to the Board in accordance with the rules and regulations adopted by the Board.

Sec. 3-4. Water Superintendent - Duties. The Water Superintendent shall regularly inspect all physical facilities related to the District's water system, to see that they are in good repair and proper working order, and to note violations of any water regulations.

Sec. 3-5. Engineer, Inspector or Water Superintendent - Supervision. The Engineer, Inspector or Water Superintendent shall supervise all repair or construction work authorized by the Board, and perform any other duties prescribed elsewhere in this Ordinance or which shall be hereafter prescribed by the Board.

Sec. 3-7. Office Manager. The position of Office Manager is hereby created. He shall have charge of the office of the District and of the billing for and collecting the charges herein provided. He

shall perform such other duties as shall be determined by the General Manager.

Sec. 3-8. Id. - Duties. The Office Manager shall compute, prepare, and mail bills as hereinafter prescribed, make and deposit collections, maintain proper books of account, collect, account for, and refund deposits, do whatever else is necessary or directed by the District Auditor to set up and maintain an efficient and economical bookkeeping system, and perform any other duties now or hereafter prescribed by the Board.

Sec. 3-9. Performance of Duties. The foregoing duties of Engineer, Inspector, Water Superintendent, and Office Manager may be performed by existing District personnel or by an additional employee or employees or agent thereof.

Sec. 3-10. Compensation. The General Manager, Engineer, Inspector, Water Superintendent, and Office Manager shall receive such compensation as is prescribed by the Board.

#### ARTICLE 4 - NOTICES

Sec. 4-1. Notices to Customers. Notices to a water customer from the District will normally be given in writing, and either delivered or mailed to him at his last known address. Where conditions warrant and in emergencies, the District may resort to notification either by telephone or messenger.

Sec. 4-2. Notices from Customers. Notice from the customer to the District may be given by him or his authorized representative in writing, at the District's operating office. Where conditions warrant and in emergencies, the customer may resort to notification either by telephone or messenger.

#### ARTICLE 5 - STANDARD DISTRICT SPECIFICATIONS

Sec. 5-1. Design and Construction Standards. Minimum standards for the design and construction of water facilities within the

•District shall be in accordance with the applicable provisions of the ordinances, rules and regulations, and with the STANDARD DISTRICT SPECIFICATIONS for District heretofore or hereafter adopted by the District, copies of which are on file in the District office. The District or the District Engineer may permit modifications or may require higher standards where unusual conditions are encountered.

Two complete sets of "as built" drawings showing the actual location of all mains, valves, fire hydrants, house services, meters, if any, and appurtenances shall be filed with the District before final acceptance of the work.

ARTICLE 6 - APPLICATION FOR REGULAR WATER SERVICE -  
WHERE NO MAIN EXTENSION REQUIRED

Sec. 6-1 Application for Water Service. Applications for regular water service, where no main extension is required, shall be made on the form of application approved by the Board from time to time.

Sec. 6-2. Undertaking of Applicant. Such application shall signify the customer's willingness and intention to comply with this and other ordinances or regulations relating to water service and to make payment for water service required.

Sec. 6-3. Payment for Previous Service. An application shall not be honored unless payment in full has been made for water service previously rendered to the applicant by the District.

Sec. 6-4. Installation of Services. Water services will be installed at the location and of the size determined by the Water Department. Service installations will be made only to property abutting on public streets or abutting on such distribution mains as may be constructed in alleys or easements, at the convenience of the Water Department. Services installed in new subdivisions prior to the construction of streets or in advance of street improvement must be accepted by the applicant in the installed location.

Section 6-5. Service Connections. Service connections will be installed in accordance with applicable provisions of Article 8.

## ARTICLE 7 - GENERAL USE REGULATIONS

Sec. 7-1. Number of Services per Single Family Residential Premises. The applicant may apply for as many services as may reasonably be required for his single family residential premises, provided that the pipeline system for each single family residence shall be independent of the other single family residences on said premises and that they shall not be inter-connected.

Sec. 7-2. Supply to Separate Single Family Residential Structures. Each single family residence for which the application for water service is hereafter made, shall have a separate service connection, including a separate meter.

Sec. 7-3. Supply to Separate Commercial or Multi-Family Residential Premises. Each separate commercial or multi-family residential building for which application for a separate water service is hereinafter made, shall have a separate service connection, including a separate meter. Application for water service for more than one commercial or multi-family residential building on one lot or parcel of real property under one ownership shall have a separate service connection, including a separate meter, for all of the buildings under one application for water service.

Sec. 7-4. Number of Services Per Commercial or Multi-Family Residential Premises. The applicant may apply for as many services as may reasonably be required for his commercial or multi-family residential premises. The pipeline system from each service shall be independent of the others and they may not be inter-connected. One service with sufficient equivalent single family unit capacity may provide all of the service to any or all of the structures on the commercial or multi-family residential premises.

Sec. 7-5. Water Waste. No customer shall knowingly permit leaks or waste of water. Where water is wastefully or negligently used on a customer's premises, seriously affecting the general service, the

District may discontinue the service if such conditions are not corrected within five (5) days after giving the customer written notice.

Sec. 7-6. Responsibility for Equipment on Customer Premises.

All facilities installed by the District on private property for the purpose of rendering water service shall remain the property of the District and may be maintained, repaired, or replaced by the Water Department without consent or interference of the owner or occupant of the property. The property owner shall use reasonable care in the protection of the facilities. No payment shall be made for placing or maintaining said facilities on private property. No persons shall place or permit the placement of any object in a manner which will interfere with the free access to a meter box or will interfere with the reading of a meter.

Sec. 7-7. Changes in Customer's Equipment. Customers making any material changes in the size, character, or extent of the equipment or operations utilizing water service, or whose change in operations results in a large increase in the use of water, shall immediately give the District written notice of the nature of the change, and, if necessary, amend their application.

Sec. 7-8. Damage to Water System Facilities. The customer shall be liable for any damage to the District-owned customer water service facilities when such damage is from causes originating on the premises by an act of the customer or his tenants, agents, employees, contractors, licensees, or permittees, including the breaking or destruction of locks by the customer or others on or near a meter, and any damage to a meter that may result from hot water or steam from a boiler or heater on the customer's premises. The District shall be reimbursed by the customer for any such damage promptly on presentation of a bill.

Sec. 7-9. Ground Wire Attachments. All persons are forbidden to attach any ground wire or wires to any plumbing which is or may be connected to a service connection or main belonging to the District unless such plumbing is adequately connected to an effective driven ground installation on the premises. The District will hold the customer

- liable for any damage to its property occasioned by such ground wire attachments.

Sec. 7-10. Cross Connections. The customer must comply with the state and federal laws governing the separation of dual water systems or installations of backflow protective devices to protect the public water supply from the danger of cross-connections. Backflow protective devices must be installed as near the service as possible and shall be open to test and inspection by the Water Department. Plans for installation of backflow protective devices must be approved by the Water Department prior to installation.

In special circumstances, when the customer is engaged in the handling of especially dangerous or corrosive liquids or industrial or process waters, the District may require the customer to eliminate certain plumbing or piping connections as an additional precaution and as a protection of the backflow preventive devices.

As a protection to the customer's plumbing system, a suitable pressure relief valve must be installed and maintained by him, at his expense, when check valves or other protective devices are used. The relief valve shall be installed between the check valves and the water heater.

Whenever backflow protection has been found necessary on a water supply line entering a customer's premises, then any and all water supply lines from the District's mains entering such premises, buildings, or structures shall be protected by an approved backflow device, regardless of the use of the additional water supply line.

The double check valve or other approved backflow protection devices may be inspected and tested periodically for water tightness by the District. The devices shall be serviced, overhauled, or replaced whenever they are found defective and all costs of repair and maintenance shall be borne by the customer.

The service of water to any premises may be immediately discontinued by the District if any defect is found in the check valve

installation or other protective devices, or if it is found that dangerous unprotected cross-connections exist. Service will not be restored until such defects are corrected.

Sec. 7-11. Interruptions in Service. The District shall not be liable for damage which may result from an interruption in service from a cause beyond the control of the Water Department to make improvements and repairs. Whenever possible, and as time permits, all customers affected will be notified prior to making such shutdowns. The District will not be liable for interruption, shortage, or insufficiency of supply, or for any loss or damage occasioned thereby, if caused by accident, act of God, fire, strikes, riots, war, or any other cause not within its control.

Sec. 7-12. Ingress and Egress. Representatives from the Water Department shall have the right of ingress and egress to the customer's premises at reasonable hours for any purpose reasonably connected with the furnishing of water service.

#### ARTICLE 8 - METERS AND METERED SERVICE CONNECTIONS

Sec. 8-1. District Property. All services shall be metered. The service connection, whether located on public or private property, is the property of the District, and the District reserves the right to repair, replace and maintain it as well as to remove it upon discontinuance of service.

Sec. 8-2. Meters. When an application for service is granted under Article 6, the District will install the meter and meter box. A 5/8 x 3/4-inch meter will be furnished without charge. The applicant will pay a \$60 fee for the cost of installation. If the applicant desires a larger meter, the applicant shall pay the difference in cost between a 5/8 x 3/4-inch meter and that requested plus installation cost.

Only duly authorized employees or agents of the District will be permitted to install a meter and meter box.



Sec. 8-3. Meter Installations. Meters will be installed at the curb or within the easement, and shall be owned by the District and installed and removed at its expense after payment of the charges established therefor. No rent or other charge will be paid by the District for a meter or other facilities, including housing and connections, located on a customer's premises. All meters will be sealed by the District at the time of installation, and no seal shall be altered or broken except by one of its authorized employees.

Sec. 8-4. Change in Location of Meters. Meters may be re-located only if approved by the Board upon application. All cost of relocation shall be borne by the applicant.

Sec. 8-5. Location of Meters. The District reserves the right to determine the location of meters with respect to the boundaries of the premises to be served. The installation including the meter, shall be the property of the District. The service between the meter and the building served by the installation shall be the property of the customer and shall be maintained by the customer at his expense.

Sec. 8-6. Size of Meter. The size of the meter shall be determined by the size of the service connection requested by the applicant. These sizes shall be as follows: 5/8 x 3/4-inch, 25 GPM; 1 inch, 50 GPM; 1-1/2 inch, 100 GPM; 2 inch, 160 GPM; 3 inch, 350 GPM. GPM means gallons per minute.

Sec. 8-7. Curb Cock. Every service connection installed by the District shall be equipped with a curb cock or wheel valve. On metered services, the valve is to be on the customer's side of the service installation, as close as is practicable to the meter location. Such valve or curb cock is intended for the exclusive use of the District in controlling the water supply through the service connection pipe. If the curb cock or wheel valve is damaged by the consumer's use to an extent requiring replacement, such replacement shall be at the consumer's expense.

Sec. 8-8. Meter Tests - Deposit. If a customer desires to have the meter serving his premises tested, he shall first deposit Ten Dollars (\$10.00). Should the meter register more than two percent (2%) fast, the deposit will be refunded, but should the meter register less than two percent (2%) fast, the deposit will be retained by the Water Department.

Sec. 8-9. Adjustment for Meter Errors - Fast Meters. If a meter, tested at the request of a customer pursuant to Sec. 8-8, is found to be more than two percent (2%) fast, the excess charges for the time service was rendered the customer requesting the test, or for a period of six months, whichever shall be the lesser, shall be refunded to the customer.

Sec. 8-10. Adjustment for Meter Errors - Slow Meters. If a meter, tested at the request of a customer pursuant to Sec. 8-8, is found to be more than twenty-five percent (25%) slow, in the case of domestic service, or more than five percent (5%) slow, for other than domestic services, the District may bill the customer for the amount of the undercharge based upon corrected meter readings for the period, not exceeding six months, that the meter was in use.

Sec. 8-11. Non-Registering Meters. If a meter is found to be not registering, the charges for service shall be at the minimum monthly rate or based on the estimated consumption, whichever is greater. Such estimates shall be made from previous consumption for a comparable period or by such other method as is determined by the Water Department and its decision shall be final.

#### ARTICLE 9 - BILLING

Sec. 9-1. Billing Period. The regular billing period will be monthly, bi-monthly, or quarterly at the option of the District. The District may bill such charges with other charges for services rendered by the District.

Sec. 9-2. Meter Reading. Meters will be read, as nearly

service will also be turned off for non-payment of bills rendered under Ordinance No. 71-3.

Sec. 10-2. Charges a Debt. Failure to receive a bill does not relieve an owner or consumer of liability. Any amount due shall be deemed a debt to the District, and any person, firm, or corporation failing, neglecting or refusing to pay said indebtedness shall be liable to an action in the name of the District in any court of competent jurisdiction for the amount thereof.

Sec. 10-3. Reconnection Charge. A reconnection charge of Ten Dollars (\$10.00) plus penalties as provided in Sec. 11-1 will be made and collected prior to renewing service following a discontinuance.

Sec. 10-4. Unsafe Apparatus. Water service may be refused or discontinued to any premises where apparatus or appliances are in use which might endanger or disturb the service to other customers.

Sec. 10-5. Cross-Connections. Water service may be refused or discontinued to any premises where there exists a cross-connection in violation of state or federal laws or this Ordinance.

Sec. 10-6. Fraud or Abuse. Service may be discontinued, if necessary, to protect the District against fraud or abuse.

Sec. 10-7. Non-compliance with Regulations. Service may be discontinued for non-compliance with this or any other ordinance or regulation relating to the water service to customer by District.

Sec. 10-8. Continuing Liability. The customer shall be liable for minimum use charges whether or not any water is used. The property remains liable for water standby or facilities charges in any event.

#### ARTICLE 11 - COLLECTION BY SUIT

Sec. 11-1. Penalty. Rates and charges which are not paid on or before the day of delinquency shall be subject to a penalty of ten percent (10%) and thereafter shall be subject to a further penalty of one-half of one percent (1/2 of 1%) per month on the first day of each month following.

• as possible, on the same day of each billing period. Bills for periods containing less than ninety percent (90%) of a full billing period will be prorated.

Sec. 9-3. Opening and Closing Bills. Opening and closing bills for less than the normal billing period shall be prorated both as to minimum charges and quantity blocks. If the total period for which service is rendered is less than one month, the bill shall not be less than the monthly minimum charge applicable. Closing bills may be estimated by the Water Department for the final period as an expediency to permit the customer to pay the closing bill at the time service is discontinued.

Sec. 9-4. Charges. All charges are due and payable at the office of the District on the date of mailing the bill to the property owner or his agent as designated in the application or otherwise, and delinquent 30 days after the Post Office cancellation date. Service may be discontinued without further notice if payment is not made by the delinquent date.

Sec. 9-5. Payment of Bills. Bills for metered water service shall be rendered at the end of each billing period. Flat rate service and all standby or facilities charges shall be billed in advance. Bills shall be payable on presentation. On each bill rendered by the District shall be printed substantially the following: "If this bill is not paid within thirty (30) days after the Post Office cancellation date, service may be discontinued. A reconnection charge and penalties will be made and collected prior to renewing service following a discontinuance. Delinquent standby or facilities charges can become a lien on your property and may be collected on the county tax rolls."

Sec. 9-6. Water Used Without Regular Application Being Made. A person taking possession of premises and using water from an active service connection, without having made application to the District for water service, shall be held liable for the water delivered from the date

of the last recorded meter reading, and if the meter is found inoperative, the quantity consumed will be estimated. If proper application for water service is not made upon notification to do so by the District, and if accumulated bills for service are not paid immediately, the service may be discontinued by the District without further notice.

Sec. 9-7. Damages Through Leaking Pipes and Fixtures. When turning on the water supply as requested and the house or property is vacant, the District will endeavor to ascertain if water is running on the inside of the building. If such is found to be the case, the water will be left shut off at the curb cock on the inlet side of the meter. The Board's jurisdiction and responsibility ends at the meter and the Board will, in no case, be liable for damages occasioned by water running from open or faulty fixtures, or from broken or damaged pipes beyond the meter.

Sec. 9-8. Damage to Meters. The Board reserves the right to set and maintain a meter on any service connection. The water consumer shall be held liable, however, for any damage to the meter due to his negligence or carelessness and, in particular, for damage caused by hot water or steam from the premises.

#### ARTICLE 10 - DISCONTINUANCE OF SERVICE

Sec. 10-1. Disconnection for Non-payment. Service may be discontinued for non-payment of bills on or after the thirtieth day following the date of Post Office cancellation. At least five (5) days prior to such discontinuance, the customer will be sent a final notice informing him that discontinuance will be enforced if payment is not made within the time specified in said notice. The failure of the District to send, or any such person to receive, said notice shall not affect the District's power hereunder. A customer's water service may be discontinued if water service furnished at a previous location is not paid for within the time herein fixed for the payment of bills. If a customer receives water service at more than one location and the bill for service at any one location is not paid within the time provided for payment, water service at all locations may be turned off. Water



Sec. 11-2. Suit. All unpaid rates and charges and penalties herein provided may be collected by suit.

Sec. 11-3. Costs. Defendant shall pay all costs of suit, including reasonable attorney fees, in any judgment rendered in favor of District.

#### ARTICLE 12 - PUBLIC FIRE PROTECTION

Sec. 12-1. Use of Fire Hydrants. Fire hydrants are for use by the District or by organized fire protection agencies pursuant to contract with the District. Other parties desiring to use fire hydrants for any purpose must first obtain written permission from the Water Department prior to use and shall operate the hydrant in accordance with instructions issued by the Water Department. Unauthorized use of hydrants will be prosecuted according to law.

Sec. 12-2. Moving of Fire Hydrants. When a fire hydrant has been installed in the location specified by the proper authority, the District has fulfilled its obligation. If a property owner or other party desires a change in the size, type, or location of the hydrant, he shall bear all costs of such changes, without refund. Any change in the location of a fire hydrant must be approved by the proper authority.

Sec. 12-3. Water Pressure and Supply. The District assumes no responsibility for loss or damage due to lack of water or pressure, either high or low, and merely agrees to furnish such quantities and pressures as are available in its general distribution system. The service is subject to shutdowns and variations required by the operation of the system.

#### ARTICLE 13 - SPECIAL PROVISIONS

Sec. 13-1. Pools and Tanks. When an abnormally large quantity of water is desired for filling a swimming pool or for other purposes, arrangements must be made with the District prior to taking such water. Water to be used for other than domestic purposes, such as

swimming pools and tanks, will be supplied only through a meter and filter system approved by the State Board of Health. All meters, lines, checks, filters, and appurtenances are to be furnished and installed by customer, under the supervision of the Water Superintendent. The system is to be open for inspection by the Water Superintendent at all times.

Permission to take water in unusual quantities will be given only if it can be safely delivered through the District's facilities and if other consumers are not inconvenienced thereby.

Sec. 13-2. Responsibility for Equipment. The customer shall, at his own risk and expense, furnish, install, and keep in good and safe condition all equipment that may be required for receiving, controlling, applying, and utilizing water, and the District shall not be responsible for any loss or damage caused by the improper installation of such equipment or the negligence or wrongful act of the customer or of any of his tenants, agents, employees, contractors, licensees, or permittees in installing, maintaining, operating, or interfering with property caused by faucets, valves, and other equipment that are open when water is turned on at the meter, either originally or when turned on after a temporary shutdown.

Sec. 13-3. Service Connections. The service connections, extending from the water main to the boundary of the road or public easement right of way in which the water main is situate, and the meter, meter box, and curb cock or wheel valve, shall be maintained by the District. All pipes and fixtures extending or lying beyond the boundary of said road or easement right of way shall be installed and maintained by the owner of the property.

#### ARTICLE 14 - RATES

Sec. 14-1. Rate Resolution. Charges for the use of water within Improvement District shall be prescribed by the Board by resolution, which may be amended from time to time within the limits established by any bond proceedings. Such resolution shall be on file in the

Office of the Secretary and copies thereof shall be available on request.

Sec. 14-2. Special Charges. At the time of making a new service connection to the District water system from any parcel of land and/or an increase in the size of an existing service connection to said water system from any parcel of land the special charges which are applicable thereto pursuant to the provisions of Articles 15, 16 and 17 of this Ordinance shall be paid prior to the making thereof. Payment of such charges shall entitle such parcel only to the limited benefits covered by the charges paid, and thereafter water service to such parcel shall remain subject to all of the provisions of said Articles 15, 16 and 17. The portions of such charges which represent treatment plant benefit charges and pipeline and storage benefit charges, respectively, shall be placed in the special funds, respectively, and used only for the special purposes, respectively, provided in said Articles 15 and 16.

Sec. 14-3. Payment of Special Charges By Special Assessments.

In the event the Board has heretofore included or hereafter includes any parcels of land within the boundaries of an improvement district formed for the purpose of acquiring, constructing and financing by special assessments, in whole or in part, water facilities to serve such parcels, the confirmation and levy by the Board of an assessment in the proceedings to form such improvement district shall constitute payment of the special charges applicable to such parcels, respectively, pursuant to the provisions of Articles 15, 16 and 17 of this Ordinance insofar as and to the extent that the individual assessments levied on such parcels, respectively, include amounts for the special charges provided for in said Articles 15, 16 and 17.

Sec. 14-4. Payment of special charges for parcels of land outside of improvement districts, as provided for and contemplated by Articles 15, 16 and 17 of this Ordinance, either by special assessments levied in other improvement districts or otherwise, shall confer on such

parcels only the limited rights of service and use in the facilities of the improvement district to which such charges relate as are covered by said special charges so paid.

#### ARTICLE 15 - TREATMENT PLANT BENEFIT CHARGES

Sec. 15-1. Georgetown-Buckeye Treatment Plant. Any parcel for which a treatment plant benefit charge has not been assessed or otherwise paid for in an amount sufficient (at the rate applicable thereto at the time of any assessment or payment for such benefit) to cover the single family unit capacity attributable to a new connection to the portion of the District water system regularly served by the treatment plant constructed in the proceedings for Georgetown-Buckeye Water Improvement District, Assessment District 1971-1, and/or an increase in the size of an existing connection to said portion of said water system shall pay, prior to receiving such new connection or such increase in size of an existing connection, the amount of \$250.00 for each unpaid for single family unit capacity attributable to such connection or increase in size of connection, on the basis of the following table:

<u>Size of Connection</u>	<u>Attributable Capacity</u>
5/8 x 3/4 inch	1 single family unit
1 inch	2 single family units
1-1/2 inch	5 single family units
2 inch	10 single family units
3 inch	20 single family units

All such treatment plant connection benefit charges collected pursuant to this Ordinance shall be placed in a special fund entitled "Treatment Plant Benefit Charges - Georgetown-Buckeye Treatment Plant". The proceeds of said fund shall be credited annually or at such other periods as the Board may prescribe by resolution upon the assessments levied upon all of the parcels of property within the boundaries of Georgetown-Buckeye Water Improvement District, Assessment District 1971-1, until the total amount of treatment plant benefit charges assessed and collected under this section of this Ordinance or Ordinance No. 75-2 (An

Ordinance Providing for Water Service by the Georgetown Divide Public Utility District to Parcels of Land Outside the Boundaries of Georgetown-Buckeye Water Improvement District, Assessment District 1971-1, and Establishing Rates, Rules and Regulations Therefore; and Amending Section 15-1 and Deleting Article 20 of Ordinance No. 72-4, An Ordinance Establishing Rates, Rules and Regulations for Water Service by the Georgetown Divide Public Utility District Within the Boundaries of Georgetown-Buckeye Water Improvement District, Assessment District 1971-1), or Ordinance No. 76-3 (An Ordinance Amending Section 15-1 of Ordinance No. 72-4 (As said Section Was Amended by Ordinance No. 75-2), Entitled An Ordinance Establishing Rates, Rules, and Regulations for Water Service by the Georgetown Divide Public Utility District Within the Boundaries of Georgetown-Buckeye Improvement District, Assessment District 1971-1) or Ordinance 77-10 (An Ordinance Establishing Rates, Rules and Regulations for Water Service by and Within the Georgetown Divide Public Utility District, and Repealing Ordinance Nos. 72-4, 74-7, 75-2, 75-4, 76-3, 77-4, 77-5, Relating to Such Rates, Rules and Regulations) shall equal \$43,569.26. Thereafter, the proceeds from treatment plant benefit charges assessed and collected under said ordinances (in excess of said \$43,569.26) shall be accumulated and used only for expansion and/or improvements of the treatment plant constructed in the proceedings for Georgetown-Buckeye Water Improvement District, Assessment District 1971-1.

Sec. 15-2. Auburn Lake Trails Treatment Plant. Any parcel of land for which a treatment plant benefit charge has not been assessed or otherwise paid for in an amount sufficient (at the rate applicable thereto at the time of any assessment or payment for such benefit) to cover the single family unit capacity attributable to a new connection to the portion of the District water system regularly served by the treatment plant constructed in the proceedings for Improvement District No. U-1, and/or an increase in the size of an existing connection to said portion



of said water system shall pay, prior to receiving such new connection or such increase in size of an existing connection, the amount of \$350.00 for each unpaid for single family unit capacity attributable to such connection or increase in size of connection, on the basis of the following table:

<u>Size of Connection</u>	<u>Attributable Capacity</u>
5/8 x 3/4 inch	1 single family unit
1 inch	2 single family units
1-1/2 inch	5 single family units
2 inch	10 single family units
3 inch	20 single family units

All such treatment plant benefit charges collected pursuant to this section of this Ordinance or Ordinance No. 77-4 (An Ordinance Establishing Rates, Rules, and Regulations for Water Service by the Georgetown Divide Public Utility District Within the Boundaries of Greenwood Water Improvement District, Assessment District 1977-1) or Ordinance No. 77-10 (An Ordinance Establishing Rates, Rules and Regulations for Water Service By and Within the Georgetown Divide Public Utility District, and Repealing Ordinance Nos. 72-4, 74-7, 75-2, 75-4, 76-3, 77-4 and 77-5 Relating to Such Rates Rules and Regulations) shall be placed in a special fund entitled "Treatment Plant Benefit Charges - Auburn Lake Trails Treatment Plant" and used only for expansion and/or improvement to said treatment plant.

#### ARTICLE 16 - PIPELINE AND STORAGE BENEFIT CHARGES

Sec. 16-1. Amount. Prior to connection to the District water system of any building located within the District, except buildings within Improvement Districts U-1 or U-2, and for which pipeline and storage benefit charges were not assessed for such building in the proceedings for a water improvement district or otherwise paid for in the amount applicable thereto at the time of any assessment or payment for such benefit, said charges shall be paid in the amounts of: Pipeline - \$300.00 per building; Storage - \$350.00 per building. Notwithstanding the foregoing provisions of this section, said pipeline charge shall be deemed paid for the first such building connected or to be connected to the District water system for each separate parcel of land which existed at the time of construction of the water main to which such building is connected, if the owner of such parcel shared in the cost of said water main by

payment of all or a portion of the cost of said main.

Sec. 16-2. Special Funds. All pipeline and storage benefit charges collected pursuant to this Ordinance or Ordinance No. 72-4 (An Ordinance Establishing Rates, Rules, and Regulations for Water Service by the Georgetown Divide Public Utility District Within the Boundaries of Georgetown-Buckeye Water Improvement District, Assessment District 1971-1), 75-4 (An Ordinance Establishing Rates, Rules, and Regulations for Water Service by the Georgetown Divide Public Utility District Within the Boundaries of Garden Valley Water Improvement District, Assessment District 1975-1), 77-4 (An Ordinance Establishing Rates, Rules, and Regulations for Water Service by the Georgetown Divide Public Utility District Within the Boundaries of Greenwood Water Improvement District, Assessment District 1977-1), and Ordinance 77-10 (An Ordinance Establishing Rates, Rules, and Regulations for Water Service by and Within the Georgetown Divide Public Utility District, and Repealing Ordinance Nos. 72-4, 74-7, 75-2, 75-4, 76-3, 77-4, and 77-5. Relating to Such Rates, Rules, and Regulations) shall be placed in separate special funds, one such fund for each water improvement district or separate area within a water improvement district. The names of each of said funds shall include the designation "Pipeline Benefit Fund" and "Storage Benefit Fund" and the name of the water improvement district or separate area within a water improvement district. The "Pipeline Benefit Charge" and the "Storage Benefit Charge" collected for a building shall be placed in the fund for the water improvement district or the separate area within a water improvement district within which is the water main to which the building is connected.

Monies in each of said funds, respectively, shall be used only for maintenance and/or extension of water mains, and/or maintenance and/or expansion or construction of storage facilities of benefit to parcels of land served by the acquisitions and improvements made for the water improvement districts or separate areas within a water improvement district, the names of which are included in the names of such funds.

#### ARTICLE 17 - SERVICE CONNECTION CHARGES

Sec. 17-1. Amount. Prior to the making of a new connection or increasing the size of an existing connection to the District water system for which a service connection charge has not been paid, by special

assessment therefore in proceedings for a water improvement district, or otherwise, a service connection charge shall be paid. The amount thereof shall be (a) the actual costs of constructing a new or larger service line from the water distribution main to the boundary of the road easement in which such main is located, if same is required, or (b) the amount set forth in the following table for the size of the new connection or the size to which an existing connection is increased, to wit:

<u>Size of Service Connection.</u>	<u>Meter Capacity (GPM)</u>	<u>Amount of Charge</u>
5/8 x 3/4 inch	25	\$350.00
1 inch	50	\$365.00
1-1/2 inch	100	\$430.00
2 inch	160	\$480.00

whichever is larger.

#### ARTICLE 18 - NON-ADJACENT PARCELS TO IMPROVEMENT DISTRICT PIPELINE

Sec. 18-1. The owners of all parcels of land included within a water improvement district which are not adjacent to a road or public easement in which a pipeline constructed pursuant to the proceedings for such district is situate will be responsible for providing, at the cost and expense of the owners of such parcels, the necessary water lines from their parcel to the service lines provided for their respective parcels at the limits of the road or public easement in which the pipeline which will serve said parcels is situate; provided, however, that if necessary and upon request, the District shall condemn at the cost and expense of the owner or owners requesting the same the requisite easements for such service lines.

#### ARTICLE 19 - APPORTIONMENT OF ASSESSMENT IN EVENT OF DIVISION OF LAND SUBJECT HERETO

Sec. 19-1. In the event any parcel of land assessed in improvement district proceedings conducted by the Board is thereafter divided into two or more separate parcels, the assessment on such parcel shall be assigned to the separate parcels as follows:

(a) Where there is one existing service connection to such parcel, to the separate parcel served by the existing service connection;

(b) Where there are two or more existing service connections to such parcel, to the separate parcel or parcels served by said existing connections; and

(c) Where there are no existing service connections to such parcel, to the separate parcel which is nearest the pipeline constructed in the proceedings.

Sec. 19-2. Notwithstanding the foregoing, the assessment can be made to a different one of the separate parcels than above specified where the choice is between one of two or more separate parcels all of which or none of which have existing connections therefrom, either as appropriate in the judgement of the Engineer or as agreed to be the owner or owners of the separate parcels involved in such choice.

Sec. 19-3. Engineering, administrative, legal and other costs of apportionment of assessments upon division of parcels of land shall be borne by the owner of the parcel before division or to the new parcel or parcels to which the assessment is assigned.

#### ARTICLE 20 - MODIFICATION OF CHARGES

Sec. 20-1. Where the division of parcels of land or use of land for industrial, commercial, subdivision or residential projects require more than an equivalent to single family unit (SFU) water capacity demand for service, the Georgetown Divide Public Utility District reserves the right to modify the foregoing charges to accurately reflect the financial implications of said parcel division or use, by reason of the potential for major influence on the capacity operation and service availability of any of the facilities serving any existing water improvement district. Said modification of charges shall be made by the District Board of Directors based upon information provided by the District Engineer and staff relative to all applicable water costs and present and future water service demands.

#### ARTICLE 21 - REPEAL

Sec. 21-1. Ordinance Nos. 77-10, 79-1 and 81-1, the full titles and dates of adoption of which are set forth in the preamble of this Ordinance, are hereby repealed and shall be of no further force and effect; provided only that the monies in the special funds designated in any of said ordinances shall be placed in the corresponding special funds provided for in the Ordinance.

ARTICLE 22 - EFFECTIVE DATE

Sec. 22-1. Adoption and Effective Date. This Ordinance shall take effect thirty (30) days after its passage. At least one week before the expiration of said thirty days, copies thereof shall be posted in three public places within the Improvement District, and it shall be published once in the Georgetown Gazette and Town Crier, a newspaper of general circulation published in the District.

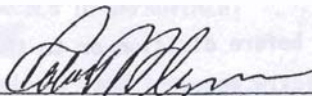
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PASSED AND ADOPTED at a regularly held regular meeting of the Board of Directors of GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT on this 14th day of April, 1982.

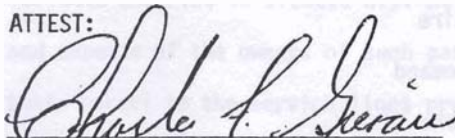
AYES: Directors Robert E. Flynn, John C. Lampson, Fred G. DeBerry, and Arthur E. Smoot.

NOES: None.

ABSENT: Director Lee J. Hoddy.

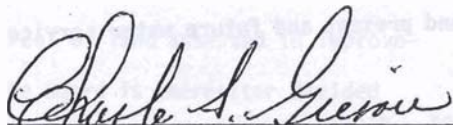
  
ROBERT E. FLYNN, President  
Board of Directors  
GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

ATTEST:

  
CHARLES F. GIERAU, Clerk and ex officio Secretary of the Board of Directors thereof.

(SEAL)

I hereby certify that the foregoing is a full, true and correct copy of Ordinance No. 82-1, duly and regularly adopted by the Board of Directors of the Georgetown Divide Public Utility District, El Dorado County, California, on April 14, 1982, 1982.

  
CHARLES F. GIERAU, Clerk of the  
GEORGETOWN DIVIDE PUBLIC  
UTILITY DISTRICT

(SEAL)